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This curriculum and teaching guide is designed to provide for adult learning in the areas of communication, mathematics, science and health, citizenship and social skills, and occupational opportunities. Typical characteristics of adult basic education students and of successful teachers are noted. Procedures and materials for imparting skills in listening, speaking, reading, writing, and spelling are outlined on three skill levels, with emphasis on the needs of non-English speaking students. Specific learning objectives, sequences of activities, and instructional materials are suggested for each content area. The document also includes a program evaluation form, an individual progress record (mathematics), the General Education Development refresher course, and a selected bibliography of professional readings. (ly)

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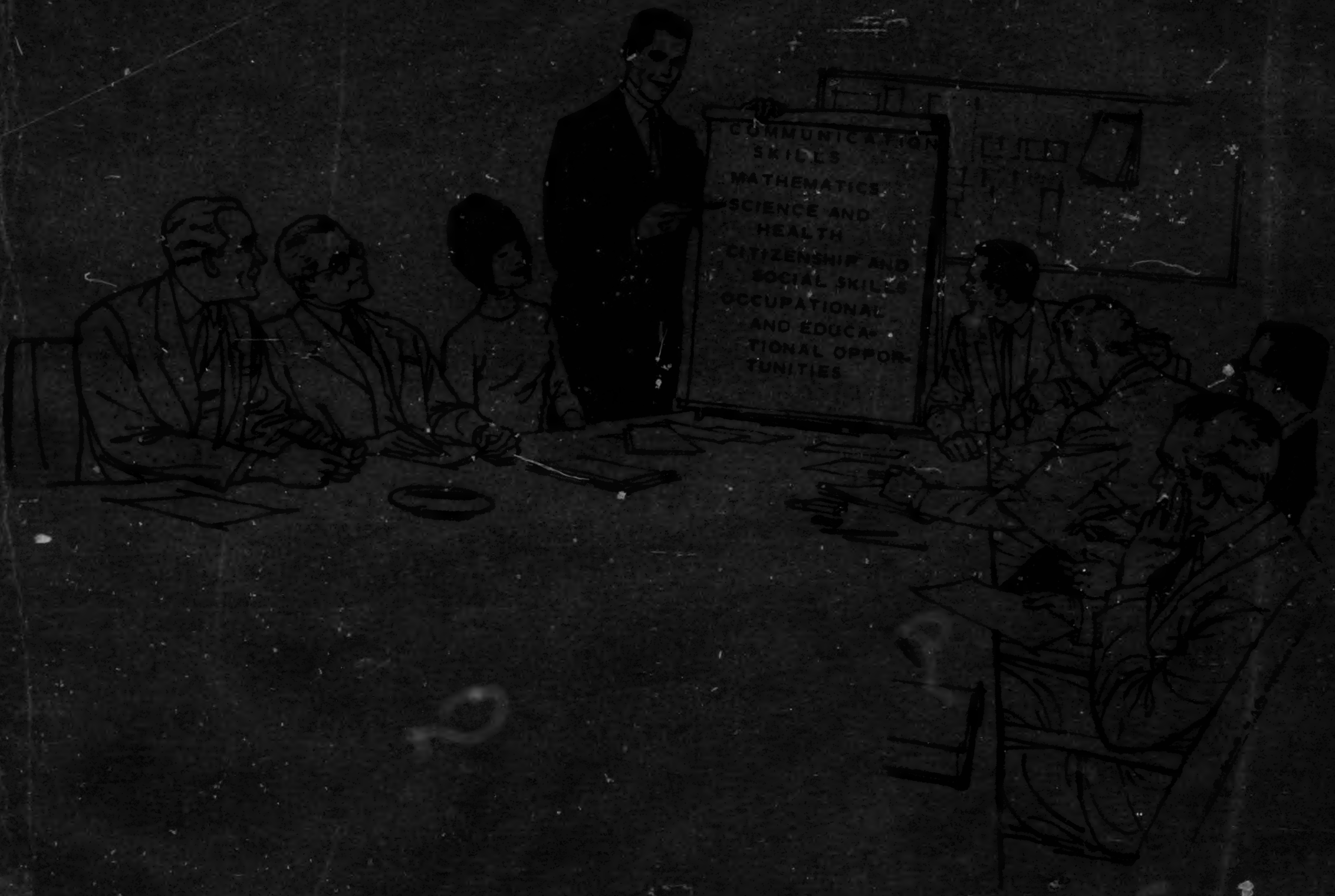
A GUIDE FOR CURRICULUM PLANNING

(EXPERIMENTAL COPY)

BASIC EDUCATION FOR ADULTS


COMMUNICATION SKILLS
MATHEMATICS
SCIENCE AND HEALTH
CITIZENSHIP AND SOCIAL SKILLS
OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

AC 003 185

TEXAS EDUCATION AGENCY
SEPTEMBER, 1968

THE STATE OF TEXAS

A GUIDE FOR CURRICULUM PLANNING

BASIC EDUCATION FOR ADULTS

(EXPERIMENTAL COPY)

TEXAS EDUCATION AGENCY
AUSTIN, TEXAS
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TABLE OF CONTENTS

Topics **Page**

Introduction iii

Adult Basic Education Rating Form v

Goals for Basic Education for Adults 1

Selected Bibliography - Professional Materials on Basic Education for Adults 2

The Basic Education Teacher - Characteristics 4

The Basic Education Student - Characteristics 6

Communication Skills

Levels 1-3 . . . . A 1
GED. A35

Mathematics . . . . B 1

Citizenship and Social Skills . . . . C 1

Science and Health . . . . D 1

Occupational and Educational Opportunities . . . . E 1

INTRODUCTION

The teacher's Guide to Basic Education for Adults is the result of efforts by 100 local school district teachers and administrators. Initially, a draft was completed in a two-week period in June, 1968. The draft was revised in July, 1968. It was ascertained at the beginning of this production that to attempt a final guide for basic education for adults would be invalid. It was developed then as an open-ended draft to be used for a year and evaluated by teachers. At the end of this trial year, teachers and administrators will again be assembled to develop a revision of this Guide.

It is anticipated that the second revision will only serve as a better stepping stone toward developing a workable planning guide for the curriculum. The teacher has a base curriculum guide which should be adapted using various materials and techniques for the local needs of adult students. It is expected that a group of teachers in a local program will collectively devise a meaningful set of educational learning experiences for adult students. The purpose of this Guide is to provide information, suggestions, and directions to teachers of adult students.

This Guide is to provide for adult learning in the areas of communications, mathematics, science and health, citizenship and social skills, and occupational opportunities. All information presented should be directed toward the individual needs of the student and should be presented in an understanding manner.

Even though the Guide has been divided into content areas, instruction should be based essentially on the core areas of communication skills and mathematics. Students' need for and use of information is on the basis of a total knowledge and not segments. Suggestions are included. A continuing evaluation of this Guide is planned which will include visitations to classes by our staff.

An Adult Basic Education Guide rating form follows. Please complete it after familiarizing yourself with the Guide and using it for class instruction. Forward the evaluation to your local program director or to Adult Education, Texas Education Agency, Austin, Texas 78711.

ADULT EDUCATION GUIDE RATING FORM

ABE Experience____
Level of ABE Assignment____
Teacher____
Administrator____
Teacher Aide____
Other____

After you have familiarized yourself with the Guide and had a chance to use it in conducting your Adult Basic Education class, please complete this rating form. This information will be used in developing future guides.

Rate the 3 items below by circling one number from 1 to 5

To what extent do you agree or disagree	DISAGREE				AGREE
1. with the state-wide goals of ABE, page 1	1	2	3	4	5
2. the characteristics of the teacher of adults, page 4	1	2	3	4	5
3. the characteristics of the student of ABE, page 6	1	2	3	4	5

Rate each section of the Guide by circling one of the numbers under each section beside each description. 1 is very little and 5 is very much.

To what extent was each section	COMMUNICATION SKILLS	MATHEMATICS	CITIZENSHIP & SOCIAL SKILLS	SCIENCE HEALTH	OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES
1. informative	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
2. useful in classroom	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
3. clear and meaningful	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
4. useful with its scope and sequence chart	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
5. useful with its suggested activities	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
6. useful as compared to other similar sources of information	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

GOALS FOR BASIC EDUCATION FOR ADULTS

1. To assist under-educated adults increase their knowledge of basic academic skills so they are able to,

   - Read, write, and speak the English language
   - Perform arithmetic computations related to their family finances and work
   - Practice the principles of good nutrition, good health and safety
   - Retain or obtain employment commensurate to their abilities or enter vocational training or retraining

2. To assist adults in recognizing their rights and responsibilities as citizens so they are able to take an active role in determining the course of political, social, and economic events.

responsibilities as citizens so they are able to
an active role in determining the course of politic
social, and economic events.

3. To assist the adult in recognizing his personal strengths and weaknesses and their relationship to occupational, social, and family problems.

3. To assist the adult in recognizing his personal strengths
and weaknesses and their relationship to occupational,
social, and family problems.

4. To assist the adult in recognizing the need for continuing informal and formal education.

4. To assist the adult in recognizing the need for continuing
informal and formal education.

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THE BASIC EDUCATION TEACHER - CHARACTERISTICS

Teachers of Basic Education for Adults should have a very real interest in teaching and assisting under-educated adults. These teachers should realize that instructing adults differs considerably from teaching elementary and secondary students. The content of instruction should continously be directed toward the individual needs and desires of their adult students. They should firmly believe that education must be of concern to all ages and that there is no age at which it is not possible and profitable to learn. They, with their students, must search and share information and knowledge that enables themselves and their students to improve their livelihood, enrich their lives, and build understandings of themselves, their fellow men, their community, and their country. They should understand that many of their adult students are formerly drop-outs or force-outs from local educational school programs. The teacher should realize that the under-educated adult starves for basic educational information because his educational level falls short of his wanted needs.

It is important that the teachers of adult students recognize the need for individualized instruction since wants and needs will vary tremendously in a group of adult students. Teachers of adult students must also recognize the world in which the adult student functions. The successful teacher of adults:

1. Is free with praise of work that is good in quality
2. Communicates the reasons for important decisions to students
3. Encourages criticism by the students of how the class is conducted
4. Consults with students before making decisions affecting their work

5. Has no favorites
6. Encourages a problem-solving approach
7. Stimulates intellectual curiosity and inquiry
8. Knows the subject matter thoroughly
9. Assumes that the students want to learn.
10. Encourages students to evaluate their own work

The teacher of adult students should bear in mind that classroom instruction is a two-way street and individual needs must be confronted with realistic, interesting and flexible solutions. It is important that teachers of adults practice the words of Dr. Samuel Johnson (1709-1784) as they relate to the adult learner:

> "A man ought to read just as inclination leads him;
> for what he reads as a task will do him little good."

THE BASIC EDUCATION STUDENT - CHARACTERISTICS

It is most important that the teacher recognize the adult student's ability and familiarize himself with some of the characteristics of the adult learner which are as follows:

1. Rejects labeling things
2. Possesses an inadequate vocabulary
3. Uses a few words to express himself
4. Learns less from information presented orally
5. Learns better through concrete approach
6. Lacks self-confidence
7. Has a short attention span
8. Is oriented to the present
9. Has a history of failure and is conditioned to failure
10. Sometimes is suspicious of schools and teachers
11. Lacks true and sincere motivation, ambition, and drive
12. Is intensively loyal and faithful to the helpful and sincere teacher
13. Has endurance and ability to react to tough situations
14. Tends to strike back when forced into a corner
15. Is very bright in analyzing problems but handicapped in reading ability
16. Is fast to react to any kind of threat because his environment has so taught him
17. Responds to a teacher who cares and constantly ignores a teacher who does not show sincere, personal interest in him.

COMMUNICATION

COMMUNICATION

Overview

These materials have been chosen to meet the needs of adult students in the communicative skills. Suggested contents, objectives, and materials are provided.

Goal

To enable students to use the English language proficiently in listening, speaking, reading, and writing.

Scope and Sequence Chart

Level I

I. Listening

- A. Listening for meaning
- B. Following directions
- C. Listening for main ideas
- D. Sound discrimination
- E. Intonation and accentuation

II. Pronouncing (phonology)

- A. Indicate sounds
    - 1. English vowels
    - 2. English consonants
    - 3. English dipthongs
- B. Clusters of sounds
    - Sounds to letter correspondence
- C. International patterns
    - 1. Stress-pitch levels
    - 2. Phrase terminations-rhythm
- D. English-speech contrasted
- E. How to teach the problem sounds

III. Speaking

- A. Informal conversation
- B. Question and answer
- C. Vocabulary study
- D. Oral reports
- E. Group discussions

IV. Reading

- A. Left to right progression
- B. Recognition of letters
- C. Vocabulary study
- D. Vocabulary building
- E. Locating information
- F. Comprehension
- G. Reading manuscript

V. Writing

- A. Motor Skills
    - Cursive writing
- B. Composition
    - 1. Tracing
    - 2. Copying
    - 3. Capitalization
    - 4. Spelling
    - 5. Punctuation

Level II

I. Listening

- A. Following directions
- B. Main ideas
- C. Meaning
- D. Usage
- E. Intonation and accentuation

II. Speaking

- A. Informal conversation
- B. Vocabulary
- C. Group Discussion
- D. Oral reports
- E. Pronunciation, enunciation
- F. Job Interview

III. Reading

- A. Vocabulary development
- B. Locating information
  - 1. Dictionary
  - 2. Directories
  - 3. Catalogs
  - 4. Maps
  - 5. Graphs and charts
  - 6. Reference materials
- C. Comprehension
- D. Discrimination
  - 1. Tone and mood of writer
  - 2. Quality of expression
  - 3. Inferences and assumptions
  - 4. Facts and opinions
  - 5. Judgments
  - 6. Imagery

IV. Writing

- A. Improvement of cursive writing
- B. Composition
  - 1. Sentence construction
  - 2. Paragraph development
    - a. Topic sentence
    - b. Supporting details
  - 3. Grammar
    - a. Parts of speech
    - b. Verb usage
    - c. Punctuation
      - 1) Commas
      - 2) Quotation marks

Level II - Continued

- 4. Spelling
  - a. Capitalization
  - b. Contractions
  - c. Abbreviations
  - d. Syllabication
- C. Income tax short forms
- D. Job applications

Level III

I. The sentence
   - A. Abbreviations
   - B. Contractions
   - C. Syllabication
   - D. Parts of speech
   - E. Classification of sentences
   - F. Structure and sentence building

II. Dictionary study
   - A. Prefixes
   - B. Suffixes
   - C. Pronunciation
   - D. Synonyms
   - E. Antonyms
   - F. Homonyms
   - G. Definitions
   - H. Spelling

III. Outlining

IV. Paragraph writing

V. Letter writing

VI. Job applications

VII. Listening
   - A. For main ideas
   - B. For meaning
   - C. For following directions
   - D. For developing correct usage
   - E. For intonation and accentuation

VIII. Speaking
   - A. Group discussion
   - B. Informal conversation
   - C. Vocabulary study
   - D. Oral reports
   - E. Job interviews

IX. Reading
   - A. Locating information
   - B. Comprehension

General Objectives

I. **Listening**

- A. The student listens in order to follow oral directions.
- B. The student listens to obtain the main idea.
- C. The student listens to obtain the mastery of standard English.

II. **Speaking**

The student practices his speaking ability in group discussion, informal conversations, question and answer sessions, and giving oral reports.

III. **Reading**

- A. The student recognizes the letters of the alphabet and arabic numbers.
- B. The student recognizes groups of letters as words.
- C. The student learns to read manuscript writing.
- D. The student practices left to right progression until it becomes automatic.
- E. The student uses various methods of recognizing new words.
- F. The student acquires a vocabulary which meets the needs of his home, his community, and his job.
- G. The student develops the ability to locate information from a variety of sources.
- H. The student learns to comprehend meaning.
- I. The student reads a variety of materials which widen his range of interests.

IV. **Writing**

- A. Motor Skills
  The student learns legible cursive script.
- B. Composition
  1. Capitalization and punctuation.
  2. The student constructs sentences of increasing complexity.
  3. The student writes paragraphs which express his thoughts effectively.
  4. The student learns to spell those words which are required at his level of instruction.

TEACHING COMMUNICATION SKILLS TO NON-ENGLISH SPEAKING

This information on teaching English as a second language is directed mainly toward Level I teachers of Basic Education whose students are unable to speak English effectively. However, teachers at any level who have students with English language speaking problems will find the technique of teaching English as a second language rewarding.

The following suggestions are merely a guide. Considerable preparation and planning will be required to develop an effective approach to teaching English as a second language.

Teaching the four skills of communication in English, listening, speaking, reading, and writing, to adults who have little or no command of standard English should be based on the principles of second language learning. Such instruction is vastly different from the training of a six-year-old child who has been listening and/or speaking his native language all his life before he begins his formal schooling. The approach to be used in Adult Education with students with little or no previous exposure to standard English, must be based on the following principles:

1. Language is speech; therefore teach listening and speaking before reading and writing.

2. Second language or second dialect learning means requiring new ways of using the speech organs and learning the forms and their arrangements required by the new system. These habits must be acquired through intensive and extensive practice.

3. Adult speakers of any nonstandard dialect need to be taught something concerning the levels of language. The native dialect or language is not "wrong" or "incorrect"; it is not necessarily to be eradicated. There are simply

different situations where different levels of language are to be used. Such an adult learner should be made aware of the implications and shown that the bilabial or bilingual person does have a definite role to play in our present policy.

4. Sound System of the second language or dialect must be taught systematically with practice in the areas where the native language causes interference.

5. The problems are those units and patterns that show structural differences between the first and the second languages. These problems are found in all four skills. The problems require conscious understanding and much practice.

6. Reading should, at first, be of materials that the learner has already mastered through the listening and speaking skills. Before he can progress to "free" reading, he must have had much practice in reading material similar in structure and vocabulary to that which he has also mastered through listening and speaking.

7. Writing is the last skill to be taught and should be based on material already learned through the preceding three skills: listening, speaking, and reading.

8. Structure or grammar of the language is to be taught in patterns, and with much practice and manipulation, which eventually will lead to "free" communication (ability to handle the language on one's own).

9. Progression of patterns should be taught gradually, in steps. To teach a language is to establish a new system of complex habits, and habits are acquired slowly. Proceed from easy to complex patterns.

10. Students have a shorter retention in a foreign language than in their native one. When examples or models are given in the foreign language, they

may not be heard correctly or they may be forgotten shortly. The student cannot use such examples to understand the grammar or to create new sentences by analogy. Therefore, extra effort may be necessary to memorize dialogues.

11. With correct responses distorted rendition is not justified as the end product of practice. Correct the student, then model again; until the problem is mastered.

12. Immediate reinforcement should always be used. Let the student know immediately when his response has been successful. This principle is conducive to quicker learning and better retention.

13. Attitude toward culture is displayed by the teacher, awarely or unawarely. An attitude of identification with or sympathetic understanding of your students, their native language and their culture is necessary.

14. See if the student understands. Use questions to check student's mastery of the problem.

15. Vocabulary is taught in context and is kept to a minimum while the learner is mastering the sound system and the structure of the new language or dialect.

16. Teach the content and meaning of the second language as it has developed in the culture where it is spoken natively. Introduce practical content matter, such as vocational vocabulary while practicing the grammar. The content must be adult-oriented.

Level I Communication

LISTENING

I.

The student listens to:
    Obtain main ideas
    Follow simple directions

A. Suggested Activities
   1. Teacher reads to class about a familiar subject that contains an unfamiliar word whose meaning can be discussed from context. Example: D.D.T. kills insects. D.D.T. and kills are familiar words, insects is new.
   2. The student listens to passages on tapes to learn new words. Example for Spanish-speaking student: Teacher-made tape with:
      We are coming to school.
      Nosotros venimos a la escuela.

Directions for 0 level:

The student repeats the English phrase given by the teacher. The teacher should not translate the English phrase into Spanish, at first, but may question the student in Spanish to check his understanding. For 0 level the teacher may translate when needed if questioning for understanding does not succeed.

For levels 1-3 the teacher may play a tape or speak phrases in English asking the students to mimic her. In addition in order to correlate this listening exercise with reading, the teacher may write on the chalkboard a phrase in English such as "You are my teacher." The teacher points to the different words and has individuals read aloud.

The teacher assists the students in:

3. Selecting main idea from an oral source.
4. Listening to tapes, records, radio and T.V. for correct pronunciation and correct grammatical usage
5. Calling attention to sound, rhythm, and accentuation of word.
6. Giving the correct omitted word in an oral exercise

The teacher assists the students by:

7. Giving oral instructions on serving and cooking
8. Giving Civil Defense information
9. Giving oral instructions on health rules
10. Giving oral instruction on bus transportation.
11. Giving oral instructions on planting a crop.

B. Suggested Materials
   1. Tapes
   2. Tape recorder
   3. Language Master
   4. Radio
   5. T.V.
   6. Story on article read by the teacher
   7. Games
   8. Books

SPEAKING

I. The student will practice simple patterns to learn basic structures of the language.

A. Suggested Activities
  1. Asking questions with pattern responses
  2. Giving short reports - perhaps four or five sentences in length
  3. Reading examples from books, flash cards, chalkboards, wall charts, and flip charts
  4. Mimicking teacher and tape recorder
  5. Asking questions with replies based on experiences and/or readings
  6. Imitating radio and T.V. announcer giving commercial
  7. Calling attention to the structure of a sentence.
  8. Practicing patterned responses

     "What is this?"
     "This is a book."

     "Who is this?"
     "This is a girl."

  9. Giving reports. Teacher asks: What kind of work do you do and who is your boss? How many boys and girls do you have and what are their names?
  10. Using language master and teacher-made cards

B. Suggested Materials
  1. Books
  2. Flash cards
  3. Wall and flip charts
  4. Radio
  5. T.V.
  6. Teacher-made language cards

READING

I. The student reads to:
   Associate the sound with symbol.
   Learn the alphabet, arabic numerals, and recognize groups of letters as words, and practice left to right progression.
   He also learns to read simple selections containing materials the same as that already mastered orally.

A. Suggested Activities
   1. Practices left to right progression
   2. Exercises in classifying objects
   3. Reads aloud
   4. Practices choral reading, such as men take one part and women take another
   5. Reads in unison
   6. Matches words and phrases
   7. Identifies a word called by a teacher
   8. Reads newspaper headlines and story captions

B. Suggested Materials
   1. Charts and flip charts
   2. Chalkboards
   3. Books
   4. 3-M "Basic Reading (Transparencies) "
   5. Flash cards
   6. Pictures with stories
   7. Overhead projector
   8. Workbooks
   9. Labels on product
   10. Checks
   11. Yardstick
   12. Ruler
   13. Language Master
   14. Newspapers

WRITING

I. The student produces legible cursive script.

A. Suggested Activities
   1. Tracing
   2. Copying.
   3. Dictation of familiar expressions.
   4. Rewriting a selection which he has read without reference to printed text.
   5. Practicing the correct posture and hand position.
   6. Learning the basic strokes, curves, lines, alignments, size, and spacing
   7. Learning to form and connect letters
   8. Trying to improve legibility of cursive writing.
   9. Drilling and practicing formation of letters.
   10. Writing one's name.
   11. Writing words and sentences.
   12. Writing checks
   13. Filling out simple forms such as: Internal Revenue (short forms).

B. Suggested Materials
   1. Paper, pencils
   2. Chalkboard
   3. Writing textbook.
   4. Workbook
   5. Blank checks.

LISTENING

I. The student listens to develop his ability to obtain meaning, follow directions, and to learn the correct usage of words.

A. Suggested Activities
1. The student obtains word meanings through context.
2. The student listens to obtain main ideas.
3. The student listens for correct usage of grammatical patterns.
4. The student listens to passages on tapes or to those read by the teacher to learn new words.

   Example: The teacher reads an unfamiliar passage with some new words. Class and teacher discuss meaning of passage and teacher calls for new words, listing them on the board. Portions of the text are repeated by the teacher so that definitions may be ellicited by the student from the context. Students prepare homemade dictionaries. Teacher pronounces new words, sound of letters of words, and students respond, pronouncing words individually and in unison.

5. The student selects main ideas from paragraphs given orally.
6. The student listens to tapes, records, radio, and T.V. for correct usage.
7. The student listens to selected vocal recording to ascertain inflections in singing.
8. The student listens for sounds, rhythm, accentuation, and intonational patterns or the melody of the language.
9. The student is given incomplete sentences orally and asked to complete them orally.

B. Suggested Materials
1. Tape
2. Tape recorder
3. Language Master
4. Radio
5. T.V.
6. Story or article read by the teacher

SPEAKING

I. The student participates in informal conversations to build his vocabulary, and to improve his pronunciation through oral drills.

A. Suggested Activities
  1. The student understands that in order to learn the language, he should practice speaking English as much as possible, not just listen to the teacher.
  2. The student shares ideas in group discussions.
  3. The student participates in oral reports on personal experiences.
  4. The student builds his speaking vocabulary.
  5. The student participates in informal and spontaneous conversations pertaining to the group's interests.
  6. The student participates in discussion on the assigned topics.
  7. The student participates in oral drills on grammar and pronunciation.

B. Suggested Materials
  1. Newspaper articles on current events
  2. Magazine articles on common problems
     a. health
     b. food prices
     c. transportation
  3. Props prepared by teacher
  4. Flash cards.
  5. Overhead projector
  6. Language Master.
  7. Radio, records
  8. Television.
  9. Paper, pencils.
  10. Books, magazines

READING

I. The student acquires a larger vocabulary encompassing the home, community, and place of work; develops the ability to locate information from a variety of sources; learns how to use new words in familiar patterns; and also acquires comprehension skills.

A. Suggested Activities
   1. The student acquires a more extensive vocabulary, including vocational terminology.
   2. The student adds to his personal word list as new words arise in class and from group discussions.
   3. The student learns to seek information from:
      a. dictionary and encyclopedia
      b. retail sales catalog
      c. telephone directory
      d. table of contents in books
      e. index of books and newspapers
   4. The student acquires elementary reading skills to enable him to read:
      a. directions
      b. common road symbols and maps
   5. The student discriminates sounds in words and phrases.
   6. The student learns the letters which stand for sounds.
   7. The student uses the dictionary for translating words into English, for spelling, and pronunciation.

B. Suggested Materials
   1. Workbooks
   2. Textbooks
   3. Transparencies
   4. Maps
   5. Dictionaries
   6. Filmstrips
   7. Telephone directories
   8. Income tax forms
   9. Job applications
   10. Product labels; i.e., seed packs, household goods
   11. Newspaper advertisements
   12. Pictures
   13. Magazines

I. The student produces legible cursive script.

A. Suggested Activities
1. Students learn to construct sentences correctly.
2. Students increase their skill in the discriminating use of punctuation and capital letters.
3. Students develop chosen topics.
4. Students increase their ability to use writing for the practical needs of daily life:
    a. filling out applications
    b. answering want ads
    c. addressing envelopes and post cards
    d. writing notes, messages, and personal and business letters
5. Students rewrite sentences, placing capital letters where they belong.
6. Students rewrite sentences, placing periods and question marks where needed.
7. Students practice formation of letters through drills.
8. Students construct sentences to describe a picture.
9. Students unscramble words to construct sentences.

B. Suggested Materials
1. Paper, imaginary line, notebook,ruled, unruled
2. Pencils - No. 2
3. Ballpoint pens
4. Chalkboard
5. Workbooks
6. Overhead projector
7. Filmstrips

Level III Communications

I. The student perfects his mastery of the four skills and his ability to communicate on three levels: personal, communal, and vocational.

A. Suggested Activities
   1. Learn the parts of speech
      a. nouns
      b. pronouns
      c. verbs
      d. modifiers
         (1) adjectives
         (2) adverbs
      e. Connectives
         (1) prepositions
         (2) conjunctions
   2. List common and proper nouns and learn basic rules for capitalization.
   3. List days of week, months, titles, etc.
   4. Review contractions.
   5. Review oral and written syllabication.
   6. Utilize words from famous American documents in writing exercise.
   7. Drill word composition.
   8. Review problem points.
   9. Workbook: word composition and meaning
   10. Discussions of lexical problem
   11. Oral drills directed by the teacher
   12. Written drills directed by the teacher
   13. Parts of speech review
       Example: For common sentence patterns use different colors of construction paper cut into 3 inch squares. Let each square represent a part of speech. On additional squares of the same color list words that belong to the same part of speech.

B. Suggested Materials
   1. Workbooks
   2. Textbooks
   3. Dictionaries
   4. Teacher-made drills
   5. Filmstrips
   6. Charts
   7. Magnetic boards

THE SENTENCE

I. **The student constructs sentences beginning with the simple and progressing to the more complex.**

- A. Suggested Activities
  1. The student should learn the different types of sentences and their classification.
     - a. Declarative
     - b. Imperative
     - c. Interrogative
     - d. Exclamatory
  2. Structure of a sentence
     - a. Simple
     - b. Compound
     - c. Complex
  3. Define each kind of sentence and explain punctuation for sentence endings.
  4. Review subject and predicate.
  5. Give oral and written examples of the different sentence structures.
     Simple: He drives a Ford.
     Compound: They sang, but I hummed.
     Complex: While mother worked, Raul went to the store for pinto beans.
  6. Give examples of sentence classification
     - a. Declarative - Apples are red.
     - b. Imperative - Give me your book.
     - c. Interrogative - Where do you live?
     - d. Exclamatory - The house is on fire!
  7. Have student identify sentences from other reading sources.
  8. Drill students orally.
  9. Have students write examples on the board.
  10. Ask students to combine short sentences or phrases into longer sentences.
  11. Combine short sentences by using compound subjects and compound verbs.
  12. Show variety of sentence order using an overhead projector.
  13. Show filmstrips on sentence construction.

- B. Suggested Materials
  1. Textbooks
  2. Workbooks
  3. Outside reading books
  4. Teacher-made exercises and drills
  5. Transparencies
  6. Filmstrips
  7. Overhead projector

WORD STUDY

I. **The student continues to improve skills in pronunciation and articulation in order to speak and understand with greater ease. He also reviews word structure and its idiomatic usage.**

A. Suggested Activities
   1. Guide student in learning meanings and uses of various prefixes and suffixes.
   2. Teach student to pronounce words correctly.
   3. Teach the meanings of synonyms, antonyms, and homonyms.
   4. Teach the meanings of new words.
   5. Reinforce correct habits.
   6. Direct oral drills.
   7. Direct written drills.
   8. Examine word paradigm (construction) charts.
   9. Direct workbook activities.
   10. Introduce new prefixes and suffixes and review learned prefixes.
   11. Drill student on syllabication.
   12. Model various synonyms, antonyms, and homonyms; for student's participation.
   13. Use flash cards.
   14. Use SRA spelling 100 word list.
   15. Use "buddy system" in spelling.
   16. Use filmstrips in word analysis for:
       a. Meaning
       b. Pronounciation
       c. Syllabication
       d. Spelling
   17. Develop a spelling word list which is applicable to level for the purpose of communication and vocational development.

B. Suggested Materials
   1. Drill books
   2. Exercises designed by teacher
   3. Paper, pencils, ball point pens
   4. Posters (teacher made)
   5. Dictionaries
   6. Language master
   7. Encyclopedia
   8. Filmstrips
   9. Charts (teacher made)
   10. SRA Spelling 100

OUTLINING

I. **The student learns how to outline in order to acquire skill in arranging his thoughts in a logical sequence.**

- A. Suggested Activities
  - 1. The teacher introduces the material involved in outlining
    - a. kind of outlines
    - b. forms
  - 2. Discusses the purpose of outlines
  - 3. Discusses the advantage of outlining

  - 4. The student learns the format for outlining
    - a. for books and essays
    - b. for factual newspaper articles
  - 5. Copies and learns outline format from the chalkboard
  - 6. Outlines a chapter from an American history book
  - 7. Outlines the main ideas of a short paragraph
  - 8. Outlines newspaper articles
  - 9. Outlines own essay or paragraph

- B. Suggested Materials
  - 1. Textbooks
  - 2. Paper and pencil
  - 3. Newspapers
  - 4. Students paragraph and/or essay

PARAGRAPH STUDY

I. The student examines paragraph structure and increases his ability to express his thoughts correctly and effectively.

A. Suggested Activities
  1. Develop understanding of paragraph as a unit
    a. topic sentence, expressing the main thought
    b. supporting details
  2. Locate types of paragraphs in reading
    a. explanation
    b. description
    c. narration
    d. conversation
  3. Discuss the order of paragraphs
  4. Discuss the topic and summary sentences
  5. Read examples of good paragraphs and ask pupils to identify topic sentences.
  6. Use transitional words to develop better continuity of thought

B. Suggested Materials
  1. Newspapers
  2. Textbooks
  3. Filmstrips
  4. Transparencies
  5. Paper, pencils, and ball point pens

CORRESPONDENCE

I. The student learns skills in letter writing to enable him to communicate via the mails.

A. Suggested Activities
   1. Show filmstrips illustrating each kind of letter to be followed by class discussions and writing. If filmstrip is unavailable, discuss samples
   2. Discuss kinds of letter writing
   3. Discuss the form used for each kind or type of letter
      a. business letters
         1. parts of a letter
         2. form
      b. personal letters
         1. parts of a letter
         2. form
   4. Write letters with teacher's guidance
   5. Write to Congressmen
   6. Write to a business or Chamber of Commerce requesting information

B. Suggested Materials
   1. Filmstrips
   2. Transparencies
   3. Stationery
   4. Ball point pens
   5. Textbooks

JOB APPLICATIONS

I. To assist students in developing those skills necessary for filling out application blanks.

A. Suggested Activities
   1. Discuss purpose of an pllication blank.
   2. Discuss general information requested on most applications.
   3. Discuss specific required information found on job application forms.
   4. Read and discuss terminology of application blanks.

B. Suggested Materials
   1. Job application forms
      a. Federal Civil Service
      b. private industry
      c. state and private employment offices

LISTENING

I. The student listens in order to grasp the meaning of oral communication with correct grammar usage, intonation, and accentuation and to follow directions proficiently.

A. Suggested Activities
   1. Student listens to teacher-made tape selections for main ideas and tells meaning of main ideas.
   2. Student listens to teacher-made selections for variations in meaning.
   3. Student listens to teacher-made selections for usage, intonation, and accentuation.
   4. Student listens to teacher and others for usage, intonation, and accentuation.
   5. Student listens to tape selections to identify change of mood or emphasis of the speaker.
   6. Student listens to teacher-read selections and fills in workbook exercises from oral directions given.
   7. Student listens and verbalizes in teacher-led drills (in unison).

B. Suggested Materials
   1. Teacher-made tapes
   2. Commercial tapes
   3. Records
   4. Filmstrips
   5. Language Masters
   6. Tape recorder
   7. Blank tapes

I. The student learns to participate in informal conversations and to share ideas in group discussion.

A. Suggested Activities
   1. Students participate in informal conversations on group-selected topics of interest.
   2. Students participate in small group discussions and buzz sessions on group-selected topics of interest.
   3. Students discuss current events as a group
   4. Students practice enunciation drills to correct common errors; i.e., ch, sh sound.
   5. Students participate in role-playing to dramatize familiar situations in which oral English is essential; i.e., job interviews.
   6. Students prepare and deliver talks on familiar subjects by using three-part outline:
      a. introduction
      b. body
      c. closing
   7. Students prepare for and deliver talks on familiar subjects using one of the four types of delivery:
      a. impromptu
      b. extemporaneous
      c. read
      d. memorized
   8. Students read orally and record on tape a selection, poem, or speech of their choice and listen to playback for self-improvement with teacher's guidance.

B. Suggested Materials
   1. Newspapers
   2. Teacher-made or commercial cards
   3. Commercial or teacher-made tapes
   4. Records
   5. Language Master
   6. "Telephone Personality Tips" - booklet obtainable from telephone company
   7. Tape recorders

USING AN EXPERIENCE CHART

The experience chart on the following pages is that of a language-experience lesson made from a simple picture. It is intended to demonstrate how the teacher may utilize a point of interest (in this case a picture of the aftermath of a birthday party), and develop several lessons in the basic areas of communication skills. It is intended to utilize the knowledge and experience of the students for its development. It may be used at all levels of instruction.

The teacher begins with a picture (or topic, realia, model, etc.) chosen by her, or by a student and shows this to the students. On the chalkboard are placed the five columns shown on the chart, beginning with "Concept Development" and a sixth column, "Likely Vocabulary," perhaps to the left of "Concept Development" or at the bottom of the chalkboard.

The students, with the teacher's participation, as needed, are encouraged to name things they see or envision in the picture, actual or implied. For example: mother, birthday party, happy. These can be whatever objects are in the picture, as well as implied and inferred actualities, actions, emotions, etc. As the students give words which could be used, the teacher writes them on the board under "Suggested Vocabulary".

For the students, spelling the words and writing them as the teacher writes them can be a valuable learning experience. True, some of the students will be non-readers, but they will be able to contribute worthwhile information in this area, especially when they are allowed to choose the picture to initiate discussion.

This section (vocabulary) can be a part of or an entire lesson depending on the group and the time available.

The other columns are developed in a like manner, beginning with the "Concept Development" area. However, continuing straight across may not be advisable. For example, you may wish to take up "Information" and "Activities" next, in that order, leaving "Phonics" and Skills" until last since these last areas are more complicated and may well contain enough for the development of several lessons.

If you look at the information column and relate it to the concept development column and to the activities, you will see a natural organization of subject matters around a few major concepts. This type of organization lends continuity and meaning to the teacher's lesson as opposed to the day-by-day plan isolating this or that element. Reading, writing, spelling, grammar for the lowest level and history, science, homemaking, citizenship and family responsibilities and so forth at higher levels are easily woven into this fabric.

Phonics are developed from the vocabulary list and taken from the picture. Phonics may make up several lessons since there are many elements involved. Some lessons may evolve immediately after the vocabulary is developed, and others (e.g., structural analysis) later to eliminate the possibility of monotony and boredom.

Skills, a quick glance shows, are suggested by concepts developed, and the vocabulary list, as well as directly from the picture (e.g., deriving inferences).

Pictures from which good experience charts are more easily developed are those relating to the family and the home, since these are areas of common knowledge to both men and women. Pictures of shopowners and their stores, or those suggesting trips, might be easily developed. It is important to begin with a picture or topic to which the students can relate, since the students develop the lessons from knowledge based on experience.

Learning through activity can be accelerated if the teacher skillfully guides the discussions, assignments, and activities, increasing pleasure by relating to the familiar, and adding variety by not staying on one element or within one column too long, but blending skills, phonics, vocabulary, and information with some area of subject matter content that is of interest to the student.

EXPERIENCE CHART

DEVELOPMENT OF A LANGUAGE EXPERIENCE LESSON FROM A SIMPLE PICTURE

CONCEPT DEVELOPMENT	PHONICS	SKILLS	INFORMATION	ACTIVITIES
. Certain occasions demand festivities. Which? Why?	Phonic Analysis Initial Consonants p-party, plate, porch, paper, pitcher	Emotional Analysis -how does mother feel?	Food prices - home-made vs.store-bought.(include idea that time is worth money. Compute worth of mother's time in preparation.(Some foods actually cost less if store-bought).	Plan an inexpensive birthday party for a child.
. Parent-child relationship	hard c- cake, cup candle b-birthday, balloon	Inference - is the party over? Why?		Plan an inexpensive birthday party for an adult.
. Pleasure - duty - fatigue -- essential part of parenthood.	Consonant blends fl-flower, pl-plate, pr-presents Diagraphs	Organization - discuss this party planning a party make a list of all the things you would need for a birthday party.	Cost of paper vs. conventional utensils.	List words describing emotions of mother, child.
. Parent-child status in neighborhoold. Party should be not too little, not too much.	Consonant th-birthday,mother,through, tablecloth Vowel oo-balloon, spoon	Classification Party foods types, origin, preparation.	Knowledge of neighborhood customs	Investigate cost of cake,icecream,plates, favors, etc.
. Work vs. money -- could she make the party less expensive by using washable plates, a non-paper tablecloth, etc.? Is it worth it?	Vowels -long a a-cons-silent e - plate, cake, game a-silent i -tail a-silent y-birthday initial single consonant sound -apron a at end of syllable -favor Structural analysis compound -birthday, (see page 2)	Synonyms for vocabulary Syllabication: donkey, balloon Story about my child's birthday.	What is psychological importance of birthday? Discuss. Birthday customs and origin-cake,candles, presents, etc. Why? Other times for celebration and how celebrated. Differing customs	Make a budget for a birthday party. Suggest unconventional birthday parties,activities Ex: movie party Women trade cake recipes-describe measurements,ingre ients to class.

LIKELY VOCABULARY

birthday, party, cake, tired, happy, plate, cup, candle, donkey, tail, mother, through, balloon, spoon, porch, game, chair, paper, flower, apron, tablecloth, napkin, favor, pitcher, streamer, cans, presents

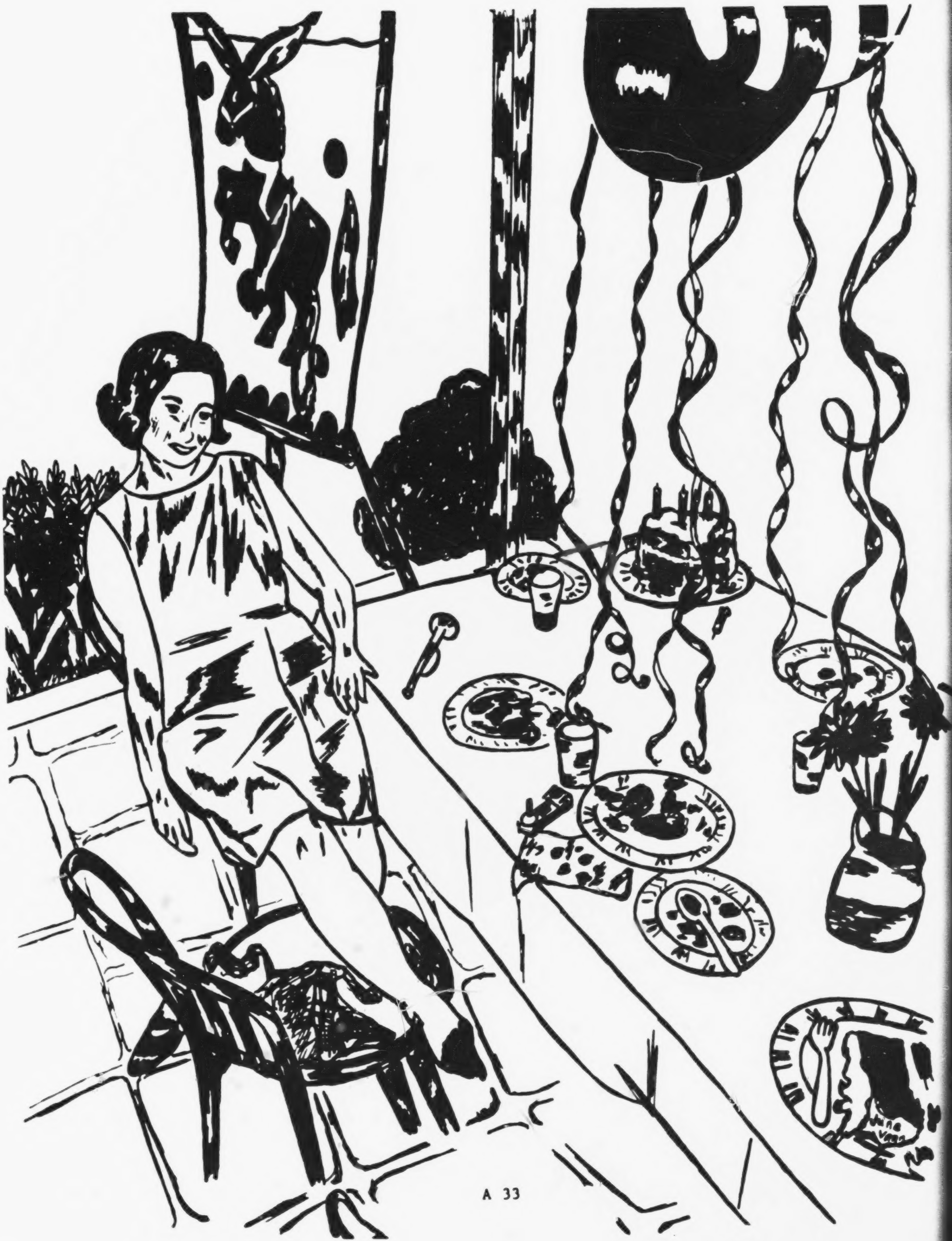
PHONICS

Structural analysis

endings-y party, ey donkey

endings -er paper, flower, streamer, pitcher

Phonogram



LOCATING INFORMATION THROUGH READING

I. The student develops the ability to locate information from a variety of sources.

A. Suggested Activities

1. The student locates information through library assignments.
2. The student locates job information and consumer-buying information through newspapers.
3. The student becomes familiar with sources of information for particular needs.
4. The student develops ability to seek information from a variety of sources.

B. Suggested Materials

1. Telephone directories
2. Newspapers
3. Public library information
4. Textbooks
5. Dictionaries
6. Workbooks

GENERAL EDUCATION DEVELOPMENT REFRESHER COURSE
(Level IV)

OVERVIEW

The subject matter of the General Education Refresher Course is designed to develop the educational maturity of the students. It is adapted to aid the students to achieve the competencies needed to pass the High School Equivalency Examinations. Continuous testing in the form of short quizzes should occur so that the participant may know his achievement and will feel more comfortable in a testing situation.

GOAL

The purpose of this section is to prepare students for the GED test, and to help his self-improvement. Additionally, the goal is to improve his oral mastery of English, and to develop a vocational vocabulary in the field of his choice.

SCOPE AND SEQUENCE CHART

I. Spelling

  A. Study of words

  B. Spelling rules

  C. Ability to detect misspelled words and correct them

II. Vocabulary

  A. Word recognition skills

  B. Word roots

  C. Prefixes and suffixes

  D. Synonyms and antonyms

III. Reading

  A. Increase perceptual span

  B. Increase speed and comprehension

IV. Grammar

  A. Punctuation

  B. Agreement of subject and verb

  C. Word usage

  D. Sentence structure

  E. Run-on and incomplete sentences

  F. Irregular verbs

  G. Person and tense

  H. Capitalization

  I. Abbreviations

Level I

Communications G.E.D. Level

SPELLING

I. The student increases his vocabulary and improves his spelling as a result of being able to visualize the word before writing it.

A. Content

1. The student is instilled with the desire to increase his vocabulary and spelling ability
2. Perfect dictionary skills
3. Emphasis on commonly misspelled words
4. Development of word-definition analysis through use of affix meanings and spellings
5. Development of dictionary of word roots and their spellings
6. Pluralization
7. Abbreviations
8. Contractions

B. Method

1. The student must practice with a desire to learn and he must be concentrating on what he is doing
2. Read as much as possible and get the eyes to "get the picture" of the correct spelling
3. Learn to spell by syllables
4. Learn to spell by listening for correct pronunciation
5. Practice
6. Learn to notice incorrect spelling and develop the habit of correcting misspelled words

C. Suggested Activities

1. Practice drills
2. Make lists of words that are hard to spell
3. Drills on pronunciation

   e.g. February, not Febuary (say that "r" sound)

   Athlete, not athelete (do not say the "e" sound)

   Library, not libary (say the "r" sound)

   Practice "ch" sound as means of improving spelling.

4. Practice (to spell) groups of words--Example: If a word is misspelled, put a small check mark beside the word. If *all* the words are spelled correctly, check the "all correct" choice, which is *e*

   e.g.

Group I	Group II
a. accommodate	a. abundance
b. criticism	b. cemetary
c. grateful	c. hindrance
d. merchandise	d. mediocre
e. "all correct"	e. "all correct"

D. Suggested Materials

1. Practice drills
2. Paper and pencil
3. Dictionaries
4. Textbooks
5. *High school Certification through GED Tests*, Farley, Weinhold, Crabtree, Holt, Rinehart, and Winston, (New York, 1967) pp 141-142, 157, 171-180.

6. For a review of grades 6 through 9 see: Gerber, Edward C., Practice for the High School Equivalency Diploma Test, (New York, 1966) pp. 131-143.

7. For frequently misspelled words at grades 9-12 see High School Equivalency Diploma Test, (New York, 1966), pp 141-142.

VOCABULARY

I. The student learns the skills necessary to build his vocabulary, learns word recognition skills; learns to recognize common affixes and roots and their meanings; develops a synonym, antonym vocabulary, the meanings of words and how to use them; and above all, uses the word often enough so that it becomes familiar.

A. Content

1. The student increases his vocabulary
2. Develops word recognition skills
3. Recognition of word roots, prefixes and suffixes and their meanings
4. Synonym and antonym vocabulary development
5. Word stem recognition

B. Methods

1. The student does assigned outside reading.
2. Takes vocabulary tests.
3. Participates in discussions
4. Uses a dictionary
5. Learns stems, prefixes and suffixes and roots.

C. Suggested Activities

1. Reads as much as time permits from different sources

   e.g.:

   a. books
   b. newspapers
   c. magazines

2. Practices tests to build vocabulary rapidly

3. Listens to lectures and talks by people who speak well
4. Keeps a little notebook adding new words every day
5. Plays word games
    a. Scrabble
    b. Anagrams
6. Learns the stems of words e.g.

Stem	Meaning	Example
aqua	water	aquanaut aqueous
mater	mother	maternal
scrip	write	inscribe scribble circumscribe
tenere (ten-)	hold	retentive (ion) untenable tenacious

D. Suggested Materials

1. Practice tests
2. Paper pencils
3. Textbooks
4. Newspapers
5. Magazines
6. Television
7. Radio

READING

I. The student learns to build up enough speed to read and comprehend at the high school level.

A. Content

1. Increase reading speed
2. Improve reading comprehension
3. Improve deriving definitions of words from context

B. Methods

1. Learns to master the eyes and the mind to work as one when reading
2. Learns to take in a larger group of words in each fixation e.g.
   Let's divide a sentence like a slow-slow reader would read:
   There/ are/ many/ signs/ by/ which/ people/ predict/ the/ weather.
   A faster reader would have a larger eye span, so he would divide it:
   There are many signs/ by which people/ predict the weather.
3. Learn to read silently, not moving lips or whispering
4. Varies reading speed
5. Increases ability to grasp the main idea faster
6. Learns to skim
7. Learns to scan

C. Suggested Activities

1. Read library books in increasing levels of difficulty
2. Magazines
3. Newspaper columns
4. Read silently not moving lips or whispering - If lips continue to move, place a pencil or eraser between teeth

5. Read from reading-pacer
6. Take comprehension tests on material that has been read
   e.g. Reader's Digest, Educational Edition, has comprehension tests on stories and articles.
7. Class practice at defining words from context of material
8. Use a note card for a reading pacer for movement down the page
   Use an index finger for pacer across the page

D. Suggested Materials

1. Graded selections and books
2. Comprehension tests
3. Timed reading tests
4. Reading pacer
5. Index cards
6. Pencil
7. Rubber eraser
8. Reader's Digest, Educational Edition
9. Index finger

GRAMMAR

I. The student learns the important rules and principles of English grammar in order to improve his speaking and writing abilities and his stature with others as one who "knows his English."

A. Content

  1. The student learns in depth the use of correct punctuation
     - a. comma
     - b. colon
     - c. semi-colon
     - d. apostrophe
     - e. exclamation point
     - f. quotation marks
  2. Agreement of subject and verb
  3. Correct word usage
  4. Correct sentence structure
  5. Detection of run-on and incomplete sentences
  6. Conjugation of verbs
  7. Principal parts of irregular verbs
  8. Declension of nouns
  9. Use of correct person and tense
  10. Principles of capitalization
  11. Use of abbreviations

B. Suggested Activities

  1. Use drills and practice on correct punctuation, etc.

2. Learn the basic grammar rules:
    a. shall or will
    b. I or me
    c. is or am
    d. who or whom
    e. who or which
    f. was or were
    g. like or as
    h. agreement in number
    i. verb tense
    j. three principal parts of verbs
3. Develop television skits
4. Write short paragraphs, record them, and then listen to them. Discuss.
5. Drill and practice on:
    a. punctuation
    b. agreement of subject and verb
    c. correct sentence structure
    d. correct word usage
    e. run-on and incomplete sentences
    f. conjugation of verbs
    g. irregular verbs
    h. cases of nouns
    i. use of correct person and tense
    j. capitalization
    k. use of abbreviations

6. Watch and mimic actors on television programs, both voice and gestures
7. Listen to radio announcers and mimic their speech delivery

D. Suggested Materials

1. Textbooks
2. Television
3. Radio
4. Language Master
5. Paper - pencil
6. Tapes
7. Records
8. Overhead projector
9. Preliminary Practice for the High School Equivalency Test, (op cit), page 148-149 for ten basic rules of grammar.
10. High School Equivalency Diploma Test (op cit), pp 88-100 for rules of grammar and punctuation.
11. High School Certification through G.E.D. Tests (op cit), pp 137-169 for correctness and effectiveness of expression.

MATHEMATICS

MATHEMATICS

I. Introduction
II. Topics - Depth Chart
III. Suggested Sequence
IV. Placement Test Sample
V. Individual Progress Chart
VI. Overview
VII. Subject Matter Guide
    A. Objective
    B. Suggested Activities
    C. Suggested Materials
    D. Evaluation
VIII. Appendix

Mathematics is a sequential study; therefore, this teacher's guide is designed to lead the student up the steps of learning at his own individual pace. A placement test should be administered at the beginning of the student's educational program; then he can be placed at his own individual level of challenge for achievement. A progress chart can be kept on each student's folder, so that he can see his advancement.

The chart at the beginning of this unit indicates the suggested material to be covered. The vertical, topics to be taught, is related to the horizontal, the depth in each topic. The suggested sequence of the material follows this vertical - horizontal chart. A sample placement test, to which the teacher may add or delete as she sees fit, is also included.

The success of this material is completely dependent upon the teacher, her individual initiative, her concept of the importance of her job, and the amount of individual progress seen. Stress must be placed upon the fact that this is a basic guide which the instructor may follow closely or from which he may deviate widely. The responsibility rests upon the teacher.

MATHEMATICS

TOPICS - DEPTH CHART

I. Number Theory	A. Greater than	B. Less than	C.	D.	E.	F.	G.
II. Recognize, write, and use numbers	A. 0 - 9	B. 10 - 100	C. Place value	D. Interpret written numbers into numerals	E. Interpret numerals into written words	F.	G.
III. Addition	A. One digit numbers both vertical and horizontal	B. Two digit numbers	C. Two digit numbers Regrouping Vertical and horizontal	D. Three rows of three digit numbers	E. Four digit numbers	F. Columnar addition	G.
IV. Subtraction	A. One digit numbers both vertical and horizontal	B. Two digit numbers and checking	C. Two digit numbers and regrouping	D. Three digit numbers	E. Four digit numbers	F.	G.
V. Multiplication	A. One digit numbers	B. Three digits by one digit No carrying	C. Three by one digit Including carrying	D. Dollars by one digit	E. Three digits by two digits	F. Three digits by	G.

VI. Division	A. One digit numbers	B. Two digits by one digit No remainder	C. One-two digit dividends by one digit divisor Remainder	D. Three digits by two digits	E.	F.	G.
VII. Interpreting word problems	A. Student written problems	B. Word problems with simple addition	C. Word problems with subtraction	D. Word problems with addition and subtraction	E. Word problems with multiplication	F. Words problems with division	G. Word problems combining operations
VIII. Four basic arithmetical operations in practical applications	A. Speed	B. Time	C. Distance	D.	E.	F.	G.
IX. Geometry	A. Location of places by number	B. Area and square units: squares, rectangles, and triangles	C. Volume	D. Circles Area and circumference	E.	F.	G.
X. Fractions	A. Greater than and less than	B. Addition and subtraction of like fractions	C. Multiplication	D. Division	E. Addition and subtraction of unlike fractions and mixed numbers	F. Mixed operations	G. Fractional and mixture problems

MATHEMATICS

XI. Decimals	A. Read and write decimals	B. Change fractions to decimals and decimals to fractions	C. Addition	D. Subtractions	E. Multiplication	F. Division	G.
XII. Percent	A. Read and write percent	B. Change percents to decimals and fractions	C. Find what percent one number is of another	D. Percents larger than 100	E. Find a number of which a percent is given	F.	G.
XIII. Consumer buying	A. Installment buying	B. Budgeting including income and fixed expenses	C. Values in purchasing	D. Time, as related to earning power, workday, time clock, and time and a half overtime	E. Discount prices	F. Taxes	G. Profit and loss
XIV. G E D preparation	A. Squares and square root	B. Series arithmetic, geometric, miscellaneous	C. Addition and subtractions of monomials and binomials	D. Multiplication, division reduction, of monomials and binomials	E. Factoring binomials and trinomials	F. Quadratic formula	G. Logarithms, base ten, use of tables

MATHEMATICS

XIV. G E D preparation (con't)	H. Ratio and proportion	I. Congruent angles, triangles, quadrilaterals, Right, isosceles equilateral triangles	J. Parallel lines, transversals and parallelograms	K. Area of a trapeziod	L. Circles chords and arcs		

Suggested Sequence

I. A,B
II. A-E
III. A,B
VII. A,B
IV. A,B
VII. C,D
V. A,B
VII. E
VI. A,B
VII. F
III. C,D,E,F
IV. C,D,E
V. C,D,E,F
VI. C,D
VII. E
VIII. A,B,C
IX. A,B
X. A-G
XI. A-F
XII. A-E
XIII. A-G
IX. C,D
XIV. A-J

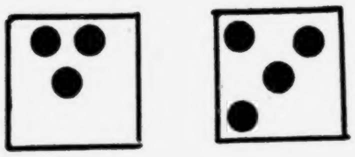
SAMPLE PLACEMENT TEST

Teacher should read instructions to student then translate into Spanish if necessary.

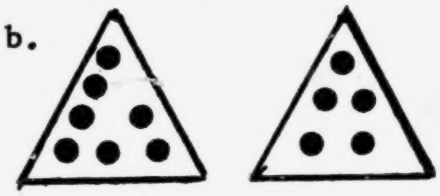
Part A

1. In both "a" and "b", draw a circle around the group that is greater:

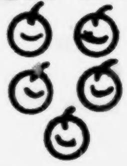
a.

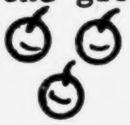


b.



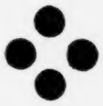
2. Draw a circle around the group that contains less:





3. Write the correct numeral under each group.

a.



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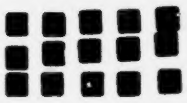
b.



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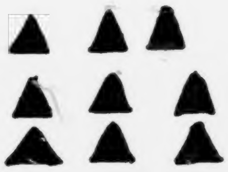
c.



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4. Write the numerals from 8 to 25.

5. How many ones are indicated in the numeral 467? How many tens? How many hundreds?

____________ones ____________tens ____________hundreds

6. Change the written words into numerals:

a. six __________

b. fiften __________

c. seventy six __________

d. six hundred eighty five __________

7. Write these numerals as words:

a. 10 ______________________________
b. 27 ______________________________
c. 369 ______________________________

8. Add:

a. 3+5= b. $\begin{array}{r} 4 \\ +\ 7 \\ \hline \end{array}$ c. $\begin{array}{r} 26 \\ +\ 2 \\ \hline \end{array}$ d. $\begin{array}{r} 47 \\ +\ 32 \\ \hline \end{array}$

e. Mary has two dollars. She earned two more dollars. How many dollars does Mary have?

9. Subtract:

(a) 5 - 3 = (b) $\begin{array}{r} 7 \\ -\ 4 \\ \hline \end{array}$ (c) $\begin{array}{r} 26 \\ -\ 2 \\ \hline \end{array}$ (d) $\begin{array}{r} 38 \\ -\ 4 \\ \hline \end{array}$ (e) $\begin{array}{r} 74 \\ -\ 32 \\ \hline \end{array}$

(f) Jim had seven apples. He ate three of his apples. How many apples did Jim have left?

10. Multiply:

(a) 7 x 8 = (b) $\begin{array}{r} 5 \\ \times\ 6 \\ \hline \end{array}$ (c) $\begin{array}{r} 13 \\ \times\ 2 \\ \hline \end{array}$ (d) $\begin{array}{r} 21 \\ \times\ 3 \\ \hline \end{array}$

(e) Joe earned two dollars an hour. He worked four hours. How much money did he earn?

11. Divide:

(a) 8 ÷ 2 = (b) $7\overline{)56}$ (c) $4\overline{)8}$ (d) $2\overline{)64}$

(e) There were twelve cookies in the jar for three girls. How many cookies did each girl get?

12. Perform indicated operation:

(a) 17 + 8 = (b) $\begin{array}{r} 54 \\ +14 \\ \hline \end{array}$ (c) $\begin{array}{r} 25 \\ -17 \\ \hline \end{array}$ (d) $\begin{array}{r} 69 \\ \times\ 85 \\ \hline \end{array}$ (e) $\begin{array}{r} 367 \\ \times\ 4 \\ \hline \end{array}$

(f) $\begin{array}{r} 9264 \\ -3374 \\ \hline \end{array}$ (g) $\begin{array}{r} 526 \\ 39 \\ 8 \\ 791 \\ +\ 95 \\ \hline \end{array}$ (h) $\begin{array}{r} 496 \\ \times\ 74 \\ \hline \end{array}$ (i) $\begin{array}{r} 479 \\ \times\ 857 \\ \hline \end{array}$

(j) $21\overline{)1987}$ (k) $73\overline{)984}$

13. Interpreting word problems:

(a) Lawrence raised 143 bushels of potatoes and sold 97 bushels. How many bushels did he keep?

(b) Mrs. Gomez spent the following amounts for groceries in three months:
$34, $45, and $35. What was her grocery bill for the three months?

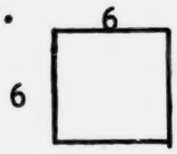
(c) Mildred's father pays $45 a month rent. What is his rent for one year?

(d) At the end of 7 months a man's salary amounted to $1106. What was his salary per month?

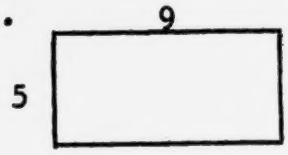
Part B

1. Find the perimeter of the following figures:

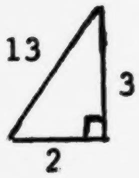
a.



b.



c.

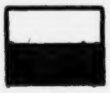


2. Find the area of the above figures.

a. **b.** **c.**

3. Tell which fractional part of the whole is shaded black:

a.



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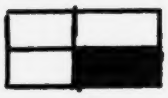
b.



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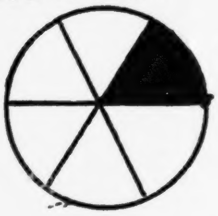
c.



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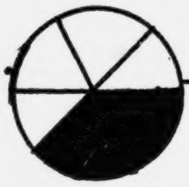
d.



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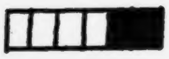
e.



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4. Perform the indicated operations:

(a) 1/3 + 1/3 =

(b) $\begin{array}{r} \frac{3}{5} \\ \\ -\frac{1}{3} \\ \hline \end{array}$

(c) $\begin{array}{r} \frac{5}{8} \\ \\ -\frac{1}{4} \\ \hline \end{array}$

(d) $\begin{array}{r} \frac{5}{6} \\ \\ +\frac{7}{9} \\ \hline \end{array}$

(e) 1/3 x 1/2 =

(f) 2/5 x 4/9 =

(g) $\begin{array}{r} \frac{3}{4} \\ \\ +\frac{1}{5} \\ \hline \end{array}$

(h) $\begin{array}{r} 7\ 1/4 \\ +\ 3\ 5/8 \\ \hline \end{array}$

(i) 1 7/8 + 2 1/6 =

(j) $\frac{7}{12} \div \frac{2}{3} =$

(k) $\frac{5}{16} \times \frac{2}{3} =$

(l) $\frac{9}{16} \div \frac{3}{8} =$

(m) 1 1/2 ÷ 5 5/8 =

(n) What is the cost of 4 boxes of pudding at 8 1/2¢ per box?

5. $\begin{array}{r} 9.45 \\ \times\ 8.9 \\ \hline \end{array}$

6. $\begin{array}{r} 40.5 \\ 9.59 \\ 87.7 \\ 9.05 \\ 33.8 \\ 4.48 \\ \hline \end{array}$

7. $\begin{array}{r} 7.3 \\ -\ 3.854 \\ \hline \end{array}$

8. $8.4\overline{)75.852}$

9. $.059\overline{)38.94}$

10. Find 18% of 1250

11. Find 7 1/2% of $47.60

12. Find 150% of 12

13. A man who earns $60 per week saves 15% of his salary. How much does he save in a year (52 wks)?

14. A $120 rug and six $7.50 chairs were bought at a special sale at a 20% discount. What was paid for these goods?

MATHEMATICS

OVERVIEW

Among the purposes one might list for teaching mathematics to adult students would be the establishment of a beginning point for each individual, to aid in development of the skill of mathematics so that the individual may function efficiently in daily problem solving and to assist in the individual's progress to the G.E.D. level. The sincere teacher of mathematics (to adults) places stress upon individual work, with each student working at his own pace and in his own area(s) of need, based, in part, of course, upon the indisputably obvious necessity for sequential development within the framework of mathematics as a process and as a science.

I. Develop the understanding of our number system.

   A. Specific Objectives

      1. Greater than

      2. Less than

   B. Suggested Activities

      1. Arrange objects in two groups of different amounts. Explain which group contains the greater number; which the lesser number.

   C. Suggested Materials

      1. Dressler, Preliminary Mathematics; Amsco School Publications, Box 351, New York 3, N. Y.; pp 1-4.

      2. Mathematics, A Modern Approach, First Course; Addison Wesley Publishing Co., Palo Alto, California; pp 1-5.

D. Suggested Evaluation

1. Let student put objects in groups and tell you which has more, or which has fewer objects.
2. Use duplicated pages with sets of dots with a different number in each set. Let student mark the set containing a greater or less number.

II. Recognize, write, and use numerals

A. Specific Objectives

1. Recognize and write the digits from 0-9.
2. Recognize and write the numerals from 10-100.
3. The student should be able to understand the value for each digit of a numeral and that each place value position is ten times greater than the position to its right.
4. Develop ability to interpret written numbers into numerals.
5. Interpret numerals into written words.
6. Understand and recognize words:
    a. less
    b. more
    c. greater

B. Suggested Activities

1. Write the number symbols from 1-100.
2. Let students write numerals on square of heavy duty wax paper with ball point pen that has no ink. Put on overhead projector for correction by the class.
3. Count objects in the classroom.
4. Identification of digits with numerals such as 564, 1089, etc.

5. Use concrete objects such as wood blocks, straws, etc., to teach place value.
6. Practice reading and writing numerals (in word forms) in digital form.
7. Provide students with forms to make their own calendars.
8. Use telephone as example of a need for numbers.
9. Use the graph system to learn to write numerals. Example in appendix.

C. Suggested Material

1. Figure It Out. Follet Publishing Company, Lone Star Book Depository, 4640 Harry Hines Boulevard, Dallas, Texas; pp 3-4.
2. Brace, Edward W. Arithmetic. Holt, Rinehart, and Winston, Inc., 383 Madison Avenue, New York, New York 10017; pp 1-12.
3. Eicholz. Basic Modern Mathematics; Addison-Wesley Publishing Company, Inc., Palo Alto, California; pp 1-15.
4. Basic Essentials of Math, Part I; Steck-Vaughn, Austin, Texas.
5. The New Continental Practice Exercises in Arithmetic. The Continental Press, Inc., Elizabethtown, Pennsylvania.
6. Photomath. Gifted Teachers' Books Inc., P. O. Box 83, Flossmoor, Illinois 60422.

D. Suggested Evaluation

1. Oral testing on recognizing numbers.
2. List several numbers written as words and have students write the numerals.
3. Write numerals such as 36, 478, and let students write as words.
4. Write numbers such as 769, have students identify "seven 100's, six 10's, nine one's".

III. Development of skills in addition through the two digit numbers and the interpretation of simple word problems.

A. Specific Objectives

1. Develop student's understanding that numbers are added according to their place value, that is, ones to ones, tens to tens, etc.

2. Show that numbers can be added in any order.

3. Efficient use of basic vocabulary

   a. sum

   b. plus

   c. add

4. Begin the approach to the application of mathematics through the use of simple word problems.

B. Suggested Activities

1. Teach addition facts

2. Practice on chalkboard

3. Make a grocery list from newspapers

4. Use a number line to illustrate addition.

5. Make cross number puzzles

6. Use concrete objects to illustrate addition

7. Use flash cards for the group, or let pairs of students practice together.

8. Practice adding using playing cards, dominoes, toy money, poker chips, etc.

9. Do simple word problems orally:

   "I have two apples. You give me two more apples. How many apples do I have?"

10. Do simple written word problems. Teach necessary vocabulary.

C. Suggested Materials

1. Figure It Out, op. cit. pp 5-11.
2. Arithmetic. op. cit. pp 13-20.
3. Basic Modern Mathematics. op. cit. pp 20-47.
4. Basic Essentials of Math, Part I., op. cit.
5. The New Continental Practice Exercises in Arithmetic. op. cit. pp 5-14.
6. Photomath. op. cit.
7. Lennes Essentials of Arithmetic. Laidlaw Brothers, River Forest, Illinois. pp 1-29.

D. Suggested Evaluation

1. Give addition problems of one digit, both vertical and horizontal.
2. Test with several problems in various orders:

$2 + 3 =$ $\qquad 3 + 2 =$ $\qquad \begin{array}{r} 2 \\ +3 \\ \hline \end{array}$ $\qquad \begin{array}{r} 3 \\ +2 \\ \hline \end{array}$

3. Can the student apply what he has learned in simple word problems?

"How many boys do I have, if I have two boys and three boys?"

4. Write the word add at the top of the page, then give problems:

$\begin{array}{r} 2 \\ 3 \\ \hline \end{array}$ $\qquad \begin{array}{r} 4 \\ 5 \\ \hline \end{array}$

IV. To develop the student's ability to subtract with two digits and to apply this knowledge in simple word problems.

A. Specific Objectives

1. Show the student that subtraction is the inverse or the opposite of addition.

2. The student must understand that numbers are subtracted according to their place value, such as one from ones, tens from tens, etc.
3. Develop the fact that the order of the numbers in subtracting is important.
4. Teach the student to check subtraction by addition.
5. Discuss that subtraction helps to compare two numbers.
6. Learn the vocabulary for subtraction.
    a. difference
    b. subtract
    c. minus (-)
    d. subtrahend
    e. inverse
    f. minuend
    g. less
    h. remainder

B. Suggested Activities

1. Teach subtraction facts
2. Practice in subtraction by using chalkboard and/or overhead projector. Students can work problems on heavy duty wax paper with a ballpoint pen that is out of ink, then place on overhead projector for explanations and corrections.
3. Using simple buying situations, explain and demonstrate the making of change by the salesperson and the checking of this by the purchaser. Count by pennies to a nickel, dime, and quarter; by nickels to a quarter, half dollar, and dollar; by dimes to a half dollar.

4. Use concrete objects to illustrate meaning of subtraction facts.
5. Use a number line to illustrate subtraction.
6. Make cross number puzzles.
7. Play a scramble-word game using the words from the vocabulary.
8. Select one step word problems (including some about money) from everyday life of the students---some to be given to the class orally and some for them to read at this level. Have some of the problems recorded on large charts. Solve problems with students, including explanation.
9. Use Cuisinaire rods to demonstrate subtraction.

C. Suggested Materials.

1. Figure It Out, op. cit., pp 12-24.
2. Arithmetic. op. cit., pp 20-35.
3. Basic Modern Mathematics. op. cit., pp56-78
4. Basic Essentials of Math, Part I. op. cit.
5. The New Continental Practice Exercises in Arithmetic., op. cit., pp 41-97.
6. Photomath. op. cit.
7. Lennes Essentials of Arithmetic. op. cit., pp 47-80.

D. Suggested Evaluation

1. Give a spiral exercise: includes problems involving recognizing, use, and writing of numbers, place value, addition of one and two digits, subtraction, word problems. (see appendix)
2. Have students make up story problems and solve them.
3. Provide students with duplicated copies of a set of word problems to be solved in class.

4. Use a test sheet of basic combinations to which students write the answers, for example:

4 + 3 =
7 - 3 =
3 + 4 =
7 - 4 =

$\begin{array}{r} 4 \\ \underline{+3} \end{array} \qquad \begin{array}{r} 7 \\ \underline{-3} \end{array}$

V. Development of the student's ability to multiply two digit numbers, his understanding that multiplication is repeated addition, and his facility in practical applications of these skills.

A. Specific Objectives

1. Show that multiplication is a short way to add.
2. Increase the student's skill to the point of multiplying two digit numbers, involving no carrying.
3. Aid the students in their understanding of the vocabulary:
    a. factors
    b. product
    c. multiplier
    d. multiplicand

B. Suggested Activities

1. Have students form into groups of 2 until there are 4 such groups. Ask how many in each group, how many groups of 2, and how many people in the 4 groups. Now use tongue depressors, poker chips, or other objects and record on the chalkboard: 4 groups of 2 in each group is 2 + 2 + 2 + 2 = 8, and another way to write this is 4 x 2 = 8, read "4 times 2 equals 8". Develop this idea thru the multiplication facts.
2. Make multiplication tables and charts.
3. Continue to use the graph method described in the appendix.
4. Make drawings to develop the concept of multiplying.
5. Make cross number puzzles.

6. Develop the idea of multiplication to two digits by one digit using no carrying.
7. Illustrate multiplying.
8. Use overhead projector and transparencies.
9. Let students work on chalkboard.
10. Use simple word problems.

C. Suggested Material

1. Figure It Out. op. cit., pp 25-31.
2. Arithmetic. op. cit., pp 72-103.
3. Basic Modern Mathematics. op. cit., pp 82-111.
4. Basic Essentials of Math, Part I. op. cit.
5. The New Continental Practice Exercises in Arithmetic. op. cit., pp 98-123.
6. Photomath. op. cit.
7. Lennes Essentials of Arithmetic. op. cit., pp 81-123.

D. Suggested Evaluation

1. Students may demonstrate the example 5 x 2 = , with objects or prove it with addition.
2. Use oral techniques of quick recall. Example: Mr. Smith, what is 5 x 2?
3. Use a test sheet which includes addition, subtraction, and multiplication.

VI. To develop the student's ability to divide two digit numbers, understanding that division is repeated subtraction, and the practical application of this knowledge to everyday situations.

A. Specific Objectives

1. Show that division is repeated subtraction.
2. Demonstrate that division is the inverse, or the opposite of multiplication.
3. Develop the student's ability to divide two digit numbers.
4. Teach how to use multiplication to check division.
5. Recognize and use the vocabulary:
    a. divide
    b. quotient
    c. divisor
    d. dividend
    e. factors
    f. remainder

B. Suggested Activities

1. Construct division charts and tables
2. The tape recorder can be used to repeat division facts while the teacher gives individual instruction.
3. Show application of arithmetic to everyday living by giving examples where division skills would be useful.
4. Use games, flashcards, dominoes, checkers, play money, etc. to practice division.
5. Use newspaper sections that relate to subject area.
6. Use visual aids, such as films, filmstrips, prepared transparencies.
7. Use spiral exercises, beginning with place value.
8. Give oral or written exercise on vocabulary words.
9. Practice problem solving for increased skill.

C. Suggested Materials

1. *Figure It Out*. op. cit., pp 45-64.
2. *Arithmetic*. op. cit., pp 104-149.
3. *Basic Modern Mathematics*. op. cit., pp 208-243.
4. *Basic Essentials of Math*, Part I. op. cit.
5. *The New Continental Practice Exercises in Arithmetic*. op. cit., pp 102-018.
6. *Photomath*. op. cit.
7. *Lennes Essentials of Arithmetic*. op. cit., pp 125-150.
8. *Getting Your Money's Worth*. Holt, Rinehart, Winston., 383 Madison Avenue, New York, New York 10017. pp 16-25.

D. Suggested Evaluation

1. Let student demonstrate with poker chips that 8 ÷ 4 is equal to subtracting 4 two times from 8.
2. Give a short oral test on division facts through 12.
3. Test by means of a work sheet, include problems from the unit on addition.

VII. The increased development of the four arithmetical skills through the use of four digit numbers, regrouping, carrying, remainder, and the use of these operations in word problems.

A. Specific Objectives

1. The vertical and horizontal addition of two digit numbers, including regrouping.
2. Addition of columns containing four rows of four digit numbers.
3. Develop the skill of subtraction through four digit numbers, including regrouping.

4. Development of the student's ability to multiply three digits by three digits and carrying, or use of the distributive principle.

5. Increase the student's skill in division through dividing a three digit number by a two digit, using long division, remainders.

6. Develop the use of these operations and the understanding of word problems so that he can master word problems using a combination of the four basic operations.

B. Suggested Activities

1. Use the suggestions in III, B; IV B; V B; VI B.

2. Explain regrouping: We never leave a value greater than 9 in ones' place. If we have 1 more than 9 we group it as 1 ten. When we add ones and the sum of ones is more than ten, we group it as tens and ones.

   Sam and Paul went fishing. Sam caught 28 fish and Paul caught 15 fish. How many fish did the men catch in all?

$$\begin{array}{rr} 2 \text{ tens} & 8 \text{ ones} \\ + 1 \text{ ten} & 5 \text{ ones} \\ \hline 3 \text{ tens} & 13 \text{ ones} \end{array} + 4 \text{ tens } 3 \text{ ones} \qquad 13 \text{ ones} = 1 \text{ ten } \; 3 \text{ ones}$$

   The men caught 43 fish.

3. Explain regrouping for subtraction.

   Example: $\begin{array}{r} 62 \\ -\ 28 \\ \hline \end{array}$ There are not enough ones for us to subtract ones.

$$\begin{array}{l} 62 = 6 \text{ tens} + 2 \text{ ones} = 5 \text{ tens} + 12 \text{ ones} \\ \underline{28 = 2 \text{ tens} + 8 \text{ ones} = 2 \text{ tens} + 8 \text{ ones}} \\ \qquad\qquad\qquad\qquad\qquad 3 \text{ tens} + 4 \text{ ones} = 34 \end{array}$$

- We know that 1 ten = 10 ones
- Take one ten from the 6 tens and regroup it as 10 ones.
- This leaves 5 tens in the ten's place.
- We then have 12 ones from which to take the 8 ones. (10 ones + 2 ones = 12 ones).
- We have regrouped 62 from 6 tens 2 ones to 5 tens 12 ones.
- We can now complete the subtraction.

4. Explain multiplication of two digits by two digits, including carrying. Use the regrouping idea to explain. Emphasize the use of the distributive principle.
5. Use graphs, charts to explain long division.
6. Use the chalkboard, overhead projector, duplicated sheets for drill work.
7. Put several statement problems on large chart. Explain steps for solving problems involving combined operations.
8. Use divisibility charts.

B. Suggested Materials

1. Arithmetic. op. cit., pp 136-169.
2. Grossnickle, Foster E. Fundamental Mathematics for Adults. Holt, Rinehart, Winston, Inc., New York, pp 1-26.
3. The New Continental Practice in Arithmetic, Grade 7. op. cit., pp 1-18.
4. Programmed Math for Adults, Book 2, Advanced Addition. McGraw-Hill Book Company, Dallas, Texas

        5. Programmed Math for Adults, Book 4, Multiplication. op cit.
        6. Lennes Essentials of Arithmetic, Book 4, op. cit.
        7. Lennes Essentials of Arithmetic, Book 5, op. cit., pp 1-71.

    C. Suggested Evaluations

    Teacher made test including all steps from simple addition of one digit through division of three digits by two digits, and word problems.

VIII. The application of the four basic arithmetical operations to the everyday life situations.

- A. Specific Objectives
    1. To record information for practical uses.
    2. To increase or decrease measurements by whole numbers.
    3. To be able to read maps and figure mileage.
    4. To be able to compute averages and estimation.
    5. To develop ability to multiply and divide instantly when using multiples.
    6. To develop the skill of figuring distance, time, speed.
    7. To teach the student the vocabulary and abbreviations necessary for the practical uses of mathematics: (Stress relationship of words)
        a. ounces, pounds, tons
        b. inches, feet, yards, rod, mile
        c. days, week, month, year
        d. pints, quarts, gallons
        e. seconds, minutes, hours
        f. circles
        g. square

B. Suggested Activities

1. Keep a chart of the temperature for a week. Give each person an individual chart so that he can record the information. Then figure the average temperature for the week.
2. Have students record his own grades. Let him devise his own system for recording, with some individual instruction from the teacher. At the end of two or three days, let him figure his average grade.
3. Bring a road map for each student. Let him plan a trip, compute the exact mileage and the approximate mileage.
4. Bring recipes for the ladies, using only whole numbers, and room plans for the gentlemen. Let them double, triple the size. Let them half the size. Be sure the results are in whole numbers.
5. Use games to develop skill of instant multiplication and division by ten or one hundred.
6. Teach estimating, making a sensible guess. Round off numbers to the nearest 10 - 50 etc. Estimate to find the quotient in division examples. Estimate shopping expenditures.

C. Suggested Material

1. Arithmetic. op. cit., pp 153.
2. Fundamental Mathematics for Adults. op. cit., pp 22-36.
3. Basic Modern Mathematics, 2nd Course, Addison Wesley Publishing Company, inc., Palo Alto, California, pp 122-128, 138-149.
4. Modern General Mathematics. Addison Wesley Publishing Company, Palo Alto, California, pp 70-82.

    5. Lennes Essentials of Arithmetic. 6. op. cit., pp 28, 42-44.

D. Suggested Evaluation

1. Using sections of a map. Choose two cities and let student chart the shortest route.
2. Give simple vocabulary test.

   Example: Fill in the blank: inches, feet, ______, rods, miles.
3. Use duplicated sheets, including increasing or decreasing measurements by whole numbers, computing averages, estimation, figuring distance (3 hours at 40 miles per hour), etc.

IX. Develop the idea of practical geometry so that the student may find areas and perimeters in whole units.

A. Specific Objectives

1. To teach the location of places by number.
2. To develop an understanding of the various measures by comparing linear, liquid, and dry measurement, and measures of weight and time.
3. To teach the student to find the perimeter of squares, rectangles, triangles; introduce the concept of square units.
4. To teach the student how to find the area of squares, rectangles, and triangles and the concept of square units.

B. Suggested Activities

1. Use individual maps. Make transparency from area on the map for use on overhead projector as you explain location of places by number.

2. Have students estimate the following and check by measurement.
   - a. the length of a page
   - b. the width of the classroom
   - c. the height of the teacher's desk
   - d. the weight of a book
   - e. the cups of liquid in a partially filled quart bottle
   - f. the time needed to walk a block
   - g. the present temperature
   - h. a minute of time
3. Make models of squares, rectangles, triangles from cardboard. Explain that perimeter is the outside edge.
4. Figure the perimeter of the room, a sheet of paper, the desk top, etc.
5. Explain that area is the entire center of the model. Be sure that you have two triangles exactly the same size. Figure the area of the rectangle formed by these two triangles. Show that this area would be divided by two to find the area of one triangle.
6. Figure area of the room, books, etc.

C. Suggested Materials

1. Basic Mathematics, Measurement, 5. Encyclopedia Britannica Press, 425 North Michigan Avenue, Chicago, Illinois. pp 1-8, 79-102.
2. Lennes Essentials of Arithmetic, 6. op. cit., pp 46, 58.

3. Preliminary Mathematics. op. cit., pp 192-216.

4. Continental Practice Exercises in Arithmetic, Book 7. op. cit., pp 30-38.

5. Fundamental Mathematics for Adults. op. cit., pp 72-81.

6. Arithmetic. op. cit., pp 217-222.

D. Suggested Evaluation

1. Let students locate town on duplicated map by the use of numbers.

2. Use various models, such as cup, yard stick, clock; let students tell what they measure.

3. Give each student simple models of square, rectangle, triangle with dimensions marked. They should be able to find perimeter and area.

4. Use duplicated floor plan of a house. Students can find area of each room and total area of the house.

X. The introduction of fractions with the development of the concept of greater than, less than, and the addition and subtraction of like fractions.

A. Specific Activities

1. Identifying and illustrating fractional parts of a whole, 1/2, 1/3, 1/4, etc.

2. Develop concept of denominator as telling how many equal parts the whole is divided into, the numerator as telling how many of these parts we are now considering.

3. Develop the skill of the addition of fractions with like denominators.

4. Follow-up skill of addition with the ability to subtract fractions with like denominators.
5. Learn beginning vocabulary for fractions:
    a. fraction
    b. fractional part
    c. numerator
    d. denominator

B. Suggested Activities

1. Make simple models from cardboard of a whole divided into halves, thirds, quarters.
2. Use concrete objects, divide into two equal parts, three equal parts.
3. Demonstrate 1/2 cup, using a measuring cup half filled with red liquid.
4. Use flannel board and various shapes of objects divided into parts.
5. Discuss orally and in writing the ways in which fractions are used in everyday life.
6. Use drawings and objects to represent fractions.
7. List products that are sold by fractional parts of a standard measure (1/2 doz., 1/4 lb., etc.)
8. Illustrate fraction of a dozen with egg cartons.
9. Make a list of fractions in ascending or descending order of value.
10. Draw, shade, or color fractional parts of a whole.
11. Provide materials for students to make their own models.

12. Illustrate addition and subtraction of like fractions through use of models. Show through the use of models why denominators must be alike to add or subtract.

C. Suggested Material

1. Basic Modern Mathematics, Second Course, op, cit., pp 230-290.
2. Continental Practice Exercises in Arithmetic, 7. op. cit., pp 19-22.
3. Preliminary Mathematics. op. cit., pp 55-77.
4. Lennes Essentials of Arithmetic 6. op. cit., p 23.
5. Modern General Mathematics. op. cit., pp 188-206.
6. Fundamental Mathematics for Adults. op. cit., pp 27-32.
7. Mathematics Modern Approach, First Course. op. cit., pp 123, 130-132.
8. Lennes Essentials of Arithmetic 5. op. cit., pp 72-82.
9. Arithmetic. op. cit., pp 170-190.

D. Suggested Evaluation

1. Use duplicated sheets with whole figures drawn on them. Have students divide figures into halves, thirds, quarters.
2. Provide materials for students to make own models of fractions.
3. Use teacher-made test including such things as: comparison of quantitative value of fractions adding like fractions; subtracting like fractions, reducing fractions.

XI. To increase the student's ability to work with fractions and to apply them to practical situations.

A. Specific Objectives

1. Develop skill in multiplying fractions and mixed numbers.
2. Teach the division of fractions and that division is the inverse of multiplication.
3. To develop the skill of the addition and subtraction of fractions
   (a) with unlike but related denominators.
   (b) with unlike and unrelated denominators.
4. Develop the skill of reducing a fraction to lowest terms.
5. To provide the ability to use mixed operations.
6. To provide number operations that will help the student enrich his daily life.

B. Suggested Activities

1. Use many of same activities as described in the last unit.
2. Use graphs, charts, and diagrams for teaching fractions.
3. Use actual objects to demonstrate fractional parts of measures. To show 1/2 inch, have students use foot ruler, as teacher demonstrates by placing a clear ruler on the overhead projector.
4. With real or toy money discuss and show that 25¢ is 1/4 dollar (1 of 4 equal groups of 25¢ to form 100¢ or a dollar).
5. Teach fractions, concrete, semi-concrete then abstract. Divide group into halves, thirds, etc. Put 2 groups together, to explain 2/3. Divide group into halves, then 1/2 group into 1/4. Illustrate that 1/2 = 2/4.

6. Discussing fractions, divide apples into fractional parts, serve to students.
7. Discuss fractions in grocery buying.
8. Substitute names of objects for numbers, as fruit for common denominator when adding lemons and apples.

C. Suggested Materials

1. Arithmetic. op. cit., pp 191-215.
2. Lennes Essentials of Arithmetic 5. op. cit., pp 83-152.
3. Fundamentals of Mathematics for Adults. op. cit., pp 33-52.
4. Modern General Mathematics. op. cit., pp 204-271.
5. Lennes Essentials of Arithmetic 6. op. cit., pp 23-81.
6. Preliminary Mathematics. op. cit., pp 77-117.
7. Continental Practice Exercises in Arithmetic 7. op. cit., pp 23-40.
8. Basic Modern Mathematics, Second Course. op. cit., pp 291-331.

D. Suggested Evaluation

1. Have students write correct fraction numeral for various fractional parts.
2. Have them read fractional numerals and explain what each number means. (denominator & numerator)
3. Have them show and tell fractional equivalents, such as 1/2= 3/6; 2/6 = 1/3; etc.
4. Give teacher-made test of a spiral type including addition, subtraction, multiplication, division of fractions, reducing, mixed numbers, mixed operations, word problems.

XII. The development of the ability to read and write decimals, interchange fractions and decimals, use the four basic arithmetical functions with decimals, and to apply this knowledge to everyday life.

A. Specific Objectives

1. Ability to read and write decimals.
2. Skill of changing fractions to decimals and decimals to fractions.
3. The addition, subtraction, multiplication, and division of decimals.
4. The practical application of decimals through the understanding of word problems.
5. Understanding of vocabulary:
    a. tenths
    b. hundredths
    c. thousandths
    d. hundred - thousandths
    e. millionths
    f. decimal point
    g. repeating decimal
    h. caret
    i. terminating decimal

B. Suggested Activities

1. Practice reading and writing decimals.
2. Explain carefully place value.
3. Use place value chart.
4. Obtain films and filmstrips explaining decimals.
5. Change common fractions to decimals. Explain that some terminate, while others repeat.

6. Change decimals to common fractions.
7. Use models of fractional parts of a whole, such as Cuisenaire Rods, to show correspondence between .5 and 1/2.
8. Practice rounding off decimal fractions to the nearest whole number, tenths, hundredths, etc.
9. Write and recite rules for correct placement of decimal points in the four operations.
10. Develop the students' abilities to apply rules in computations, through the use of board work, seat work, student demonstrations on the overhead projector.
11. Practice annexing zeros to the right of the decimal point.
12. Using transparencies let students develop ability to do problems mentally.

    Example: If one loaf of bread cost $.30, how much will 4 loaves cost?
13. Work problems involving money.
14. Use real money as demonstrations for decimals.

C. Suggested Materials

1. Basic Mathematics, Decimals and Percentage 4. Encyclopedia Britannica Press, 425 North Michigan Avenue, Chicago Illinois. pp. 435-531.
2. Mathematics Modern Approach, First Course, op. cit., pp. 147-164.
3. Basic Modern Mathematics, Second Course. op. cit., pp. 332-343.
4. Continental Practice Exercises in Arithmetic 7. op. cit., pp. 41-58.

5. Preliminary Mathematics. op. cit., pp 118-164.
6. Lennes Essentials of Arithmetic 6. op. cit., pp 83-100.
7. Fundamental Mathematics for Adults. op. cit., pp 53-81.
8. Arithmetic. op. cit., pp 227-261.
9. Modern General Mathematics. op. cit., pp 284-319.

D. Suggested Evaluation

1. Ask students to read from catalogs the various costs of items
2. Ask each student to imagine that he has $25.00 to spend. Have him make up an order from newspaper ads of items he wishes to buy. Have each student show what the price of the items would be and how much money he would have left.
3. Using numerals, dollar signs and decimal points, have students write two and 3/10 dollars, four and 6/10 dollars, five dollars, 3 and 1/4 dollars.
4. Use duplicated sheets on the arithmetical functions using decimals.

XIII. To help the student develop his ability read and write percent and to find solutions for problems which involve percent.

A. Specific Objectives

1. Learn to read and write percent.
2. To compare and contrast the concept of decimals, fractions, and percent.
    a. change percents to decimal
    b. change decimals to percent
    c. change percent to fractions
    d. change fractions to percent

3. To develop the ability to find what percent one number is of another.
4. Develop understanding and use of percents larger than 100, smaller than one, and mixed percents (2.5%).
5. Teach the skill of finding a number of which a percent is given.

B. Suggested Activities

1. Practice changing decimals to percent and percent to decimals.
2. Make comparisons of number of students in classrooms, absences, men and women, express as a fraction then change to percent.
3. Bring clippings in newspapers showing percent.
4. Practice writing fractions and translating into decimals, then percent.
5. Use percent to budget weekly allowances.
6. Make up problems and puzzles involving fractions, decimals, and percents.
7. Use percent to figure sales tax on items chosen from catalogs.
8. Use models again to show that 1/2 of an object is 50%, etc.
9. Use transparencies, colored chalk on chalkboard, charts to illustrate percent and its relationship to decimals and fractions.
10. Make out a menu, figure what percent of the meal is a green vegetable or meat, etc.
11. Show relationships between percent and interest.
12. Discuss purchase and preparation of food in quantity to cut cost. Show percent of money saved.

13. Have students read problems, break them apart, and apply the principles of finding interest:

    Example: The following offer was made through the mail. "Eight piece kitchen knife set, only $19.95. Pay only $5.00 per month for five months. No money down, quick delivery." Figure percent of interest.

C. Suggested Materials

1. Toyer, Aurelia. Get Your Money's Worth. Holt, Rinehart and Winston, Inc., New York, New York. pp 47-67.
2. Modern General Mathematics. op. cit., pp 320-337.
3. Fundamental Mathematics for Adults. op. cit., pp 82-103.
4. Lennes Essentials of Arithmetic 6. op. cit., pp 101-145.
5. Preliminary Mathematics. op. cit., pp 165-192.
6. Continental Practice Exercises in Arithmetic 7. op cit., pp 58-102.
7. Basic Modern Mathematics, Second Course. op. cit., pp 344-351.
8. Mathematics, A Modern Approach, First Course. op. cit., pp 171-188.
9. Basic Mathematics, Decimals & Percentage 4. op. cit., pp 532-564.

D. Suggested Evaluation

1. Have students answer orally such questions as: What percent is the fraction 1/2 equal to? If I pay 20% of a $5 bill, how much have I paid?, etc.
2. Let the student draw diagrams of 50% of a pie, 33 1/3% of a box, and 20% of a dollar.

3. Have students figure what percent of the class is male, what percent is female.
4. Let students use heavy duty wax paper to work problems, then put on overhead projector to explain to others.
5. Duplicated sheets covering changing decimals and fractions to percent to decimals and fractions, finding the percent of a number, using percents of more than 100 and less than one, and finding a number of which a percent is given.

XIV. The development of the capacity for wise consumer practices.

A. Sepcific Objectives

1. The understanding of installment buying, advantages and dangers.
    a. long term(20 year, 30 year mortgages, houses, etc.)
    b. short term (24-36 month, car, etc.)
    c. contract (12-25 months, furniture, appliances, etc.)
    d. emergency (medical, trouble, accident, etc.)
2. Develop the ability to budget, including income, fixed expenses, varying expenses.
3. Point out the values in purchasing.
4. Develop the ability to figure time and money as related to earning power, workday, time clocks, time-and-a-half overtime.
5. Develop skill in figuring discount prices and the use of judgment as to the actual values.
6. The certainty, necessity, and privilege of paying taxes
    a. income taxes
    b. social security taxes
    c. property taxes
    d. sales taxes
    e. miscellaneous taxes

7. Develop the ability to figure profit and loss on service type and skill occupations, and in a small business.
8. Encourage the establishment of the idea that insurance is a method of saving money and protecting personal property.
9. Develop the understanding of the banking services of checking accounts, saving accounts, and loans.

B. Suggested Activities

1. Teach that in the borrowing of money to use the following:
   a. TIME: Take time to check and compare different money offers. Read the small print.
   b. PATIENCE: Have the patience to think out loan offers.
   c. COMPUTATION: Compute all loans, cash received, and interest charges before signing papers.
   d. REASON: Make sure that there is a real reason for the need of a loan.
   e. EXAMPLES: Check over other examples of loans, and watch for amount and number of return payments.
2. Explain types of interest added in small print or concealed in the wording of a contract of purchase.
   Example: "Buy good typewriter for $49.95. Pay in four easy monthly payments of only $15.00."
3. Use resource people (bankers) to bring in interest rate information and how to conceal it.
4. Discuss simple and compound interest, advantages of borrowing from bank rather than from disreputable loan companies.

5. Use resource persons from Federal Housing Administration to discuss purchasing of real estate.
6. Use resource person from credit unions.
7. Dramatization: Allow students to assume the role of loan managers and others to assume role of borrowers. Using play money, allow them to close a deal.
8. Compare the interest rates of banks, loan companies, stores, credit unions.
9. Practice filling out loan applications obtained from bank, credit union, loan company, etc.
10. Encourage good relationship with professional people in financing. Credit is the backbone of the community.
11. Teach about: Loan sharks and fast talking sales people who offer loans or "quick money."
12. Point out that there are three main things included in interest charges:
    (a) carrying charges, (b) plain interest,
    (c) insurance. Place emphasis on comparing and checking among two or three bank offers and at least two different loan companies when in need of outside help.
13. Teach how to use the following loan interest formula for determining the interest on a loan: P x R x T = Principle times Rate times Time Equals Interest). (the above is time computed for 12 month periods).
14. Information sheets may be obtained from credit unions, loan companies, banks, Federal government's information reports,

Consumer Report, U.S. Printing Office, Washington, D.C., local T.V., radio, and newspaper news and advertisements concerning loans.

15. Students need to learn the basic vocabulary contained in time contracts:
    a. rate
    b. interest
    c. time
    d. contract
    e. promissory note
    f. principle
    g. installment
    h. date of maturity
    i. terms
    j. investment
    k. collateral
16. Learn to fill out and understand promissory notes and all forms necessary to obtain a loan.
17. Discuss household budgeting:

    (a) types of budgets (b) planned spending

    (c) tips on learning to stick to the budget.
18. Obtain samples of household budgets

    (a) envelope budget (b) simple record books, etc. Stress need for keeping records.
19. Have student prepare actual budget under teacher direction, (rent, car note, church, recreation, food, clothing, insurance,

savings, medical care, etc).

20. Allow students (if they desire) to present to the class examples of budgets which they have been successfull in using.

21. Explain shares of credit unions---some churches and large concerns have them for their members.

22. Explain methods of acquiring saving bonds and advantages of them.

23. Include in budget an allocation of money for sports, recreation. Emphasize planning for family trips: beach, place of interest available at no cost. Emphasize family relations.

24. Invite resource speaker from Chamber of Commerce to talk about low cost family points of interest in the area.

25. Obtain booklets and information from various Chambers of Commerce, possible some from the areas to which they have migrated in the past.

26. Give this general plan, based on averages for a family of average expenses.

    General rule of thumb: FOOD, 45 percent; CLOTHING, 10 percent; SHELTER, 25 percent, and MISCELLANEOUS, 20 percent.

27. Teach the skills and techniques of planning and using a budget that is suited to each family, based upon an average income and average expenditure of money.

28. Stress the need to take the time to compare and average measurements against cost.

29. Teach to watch for and understand the sales and so called "specials."

30. Build a vocabulary according to the need and studies of each part of the budget.

31. Use as resource speakers homemaking demonstrators, school nurses, Texas Health and Welfare departments' consultants.

32. Students must learn to look for the unmentioned costs of a new item; such as when buying a stove or other kitchen tool, the student must first think "How much will this cost me to run and keep up? Will my gas bill be higher?"

33. Students must learn to compare brands, to compare prices, compare the reputation for service that a company has. They must never be pressured into buying anything, learn to be sure of what they need and want and will get, if they buy a certain item.

34. They need to learn the service that will be received after purchase of item, what the warranty is and how to continue to receive the proper service for it.

35. Emphasize the need for the following consumer buying skills:
    a. planned purchases
    b. evaluating advertising---T.V., newspaper, signs, etc.
    c. considering cost and upkeep on car, home purchases
    d. consider use in "bargain buying"
    e. food purchasing---seasonal buying, volume, and special sales
    f. redeeming coupons for discount on purchases

g. the "value" of trading stamps

h. determining the best buy--new or used items

i. checking quality, labels, weights, wear and wash instructions

j. reading labels for weight, etc., on grocery buys

k. on "Going out of Business" buying hazards

l. reputable dealers, warranties, guaranties, and services.

m. reading the fine print before signing contracts

n. buying from Good Will, Salvation Army, non-profit stores

o. utilizing beauty school, barber school, trade school services

p. using community health service, dental and medical school help

q. discount stores---cheaper merchandise or cheaper prices

r. marked-down price tags or marked-down merchandise

s. buyer beware pitfalls and the law

36. Determining the better---cash or credit purchases.

37. Use newspapers, circulars, menus, contract copies, food charts, catalogs, etc., to teach discriminatory buying by comparing prices.

38. Dramatizations: involving grocery, restaurant, car dealers, salesmen, etc., may be used.

39. Various stores may be assigned to individuals for price comparison shopping. Report to class.

40. Class can discuss and evaluate T.V. commercials.

41. Bring grocery ads from newspaper. Have pupils prepare list for budgeting week's salary for groceries.

42. Discuss end-of-season buying, close-outs, clearance sales
43. Establish the difference between needs and wants.
44. Allow students to give experiences they have had in consumer buying.
45. Discuss and evaluate working by the hour, day, week, and month. Which produces most--annual wage, regular job, or highly paid seasonal work? Point out expenses involved.
46. Discuss the history of taxation (briefly). Point out that some taxes are paid according to an individual's income and others are paid on an equitable bases (sales tax, auto tax).
47. Use transparencies to explain different kinds of taxes.
48. Use charts to explain sources of revenue and expenditures.
49. Discuss programs financed with taxes.
50. Fill out W-2 forms and forms 1040 and 1040-A.
51. Establish a workable vocabulary:
    a. taxes
    b. income tax
    c. real estate tax
    d. sales tax
    e. gasoline tax
    f. personal tax
    g. auto tax
    h. excise tax
    i. percent
    k. revenue
    1. expenditures

52. Explain need for taxes at various levels:
    (a) protective services-police, fire, health, buildings, sanitation, road building and upkeep, parks, libraries, museum, etc.
    (b) maintenance services for above
    (c) schools
53. Secure tax teaching kits from local Internal Revenue Service.
54. Make available the information that Internal Revenue Service will assist them with filling out forms, free of charge, if income is less than $5,000.
55. Stress keeping income tax forms and records of deductions for reference.
56. Point out need to go to reputable accountant if income is greater than $5,000.
57. Discuss Social Security, amounts withheld from fixed salaries and how to figure percentages.
58. Use as resource speaker someone from the Internal Revenue Service.
59. Have an insurance agent speak to the class.
60. Discuss types of insurance policies.
61. Use charts to show different rates at different ages.
62. Use tables to show loan value and cash value.
63. Discuss hospital insurance; endowment plan; car insurance; mortgage plan; fire, theft, storm, etc., insurance; life insurance.
64. Establish a basic insurance vocabulary:

a. insurance

b. endowment policy

c. liability

d. collision

e. comprehension

f. mortality rate

g. maturity date

h. insurability

i. premium

j. grace period

k. cash value

l. cash-in value

m. mortgage

n. cancellation

o. life insurance

p. dividends

q. long value

65. Take a field trip to the bank. Have bank officer explain banking procedures and services. Obtain check forms, deposit slips, etc. Teach students to use correctly, how to maintain proper bank balance.

C. Suggested Materials

1. Get Your Money's Worth. op. cit.

2. Corcoran, Elean Lynch. Rights and Duties of Citizens. New York State Department of Education, New York, New York.

3. "Making the Most of Your Money", (booklet). Educational Division

Institute of Life Insurance, 277 Park Avenue, New York, N. Y., 10017.

4. "Using Your Money Wisely", (booklet), The American Bankers Association, 90 Park Avenue, New York, N.Y. 10016.
5. What Everyone Should Know About Money and Banking (booklet), Channing L. Bete Company, Inc., Greenfield, Massachusetts, 01301.
6. The Pay Check. Consumer Mathematics, Book 2. Behavioral Research Laboratories, Box 577, Palo Alto, California.
7. Basic Mathematics 4, Decimals and Percentage. op. cit., pp 571-590.
8. Preliminary Mathematics. op. cit., pp 217-312.
9. Fundamental Mathematics for Adults. op. cit., pp 104-128.
10. Lennes Essentials of Arithmetic 6. op. cit., pp 146-152.

D. Suggested Evaluation

1. Let student choose best installment contract from several choices.
2. Bring examples of several qualities of the same product and let student show best value.
3. Have student make out sample budget.
4. Let student figure several types of taxes on varying amounts of money.
5. From newspaper ads, let students "shop" for groceries and needed items of clothing with a specific amount of money.

XV. To develop skill in finding squares and square roots.

A. Specific Objectives

1. Learn to square one and two digits.

2. Find the square root of perfect squares.
3. Find the square of three digits.
4. Learn to square fractions.
5. Find the square root of fractions.
6. Compute the square and square root of decimals.
7. Develop the ability to use division to find square roots.
8. Estimate squares and square roots by use of tables.

B. Suggested Activities

1. Illustrate squares and square roots through the use of area.
2. Explain that finding the square root of a product means finding one of its two equal factors:

   The square root of 9 is 3 because 3 x 3 = 9.

3. Use a great deal of drill, use chalkboard, overhead projector, seat work.
4. Use flash cards, student made.
5. Make transparency of square and square root tables, to use for explanation of use of tables.
6. Show application of square root through tracking Pythagorean Theorem: the sum of the squares of the legs of a right triangle is equal to the square of the hypotenuse.

C. Suggested Material

1. Fundamental Mathematics for Adults. op. cit., pp 228-233.
2. Preliminary Mathematics. op. cit., pp 376-381.

D. Suggested Evaluation

1. Let students find squares and square roots of several one, two, and three digit numbers.

2. Have students find square root by the use of division.
3. Let students find square and square roots of several numbers using the tables.

XVI. Development of the use of the four operations, addition, subtraction, multiplication, division, and the use of reducing with monomials and binomials.

A. Specific Objectives
1. Develop the skill of use of four arithmetical skills and reducing with monimials.
2. Teach the skill of four operations and reducing with binomials.
3. Development of multiplying binomial by monomials.
4. Develop ability to divide binomial by monomials.
5. Learn to solve problems by using algebraic equations.

B. Suggested Activities
1. Explain assigned numbers. Use number line.
2. Point out that to add algebraic expressions that contain several terms, some of which are alike, combine only like terms.
3. Stress importance of fact: if you add, subtract, multiply, or divide on one side of the equation, you must do the exact operation on the other side.
4. Use board work. Practice makes perfect.

C. Suggested Material
1. Fundamental Mathematics for Adults. op. cit., pp 259-286.
2. Preliminary Mathematics. op. cit., pp 362-376.

D. Suggested Evaluation

1. Let student devise work problem and solve algebraically.
2. Use duplicated sheets of operations, be sure to use two or three of each type.

XVII. Develop the ability to factor.

A. Specific Objectives

1. Development of the understanding of what a factor is.
2. Factor monomials to prime factors.
3. Factor a monomial from a binomial.
4. Factor special cases of difference of squares, perfect squares.
5. Factor trinomial.

B. Suggested Activities

1. Explain that factors of the parts of a product. Example: the factors of 6 are 3 x 2 and 6 x 1.
2. Stress that factoring is always to the prime. A prime is a number, monomial, or polynomial that can be divided evenly by no number except 1.
3. Explain simple factoring: $3x + 6 = 3(x + 2)$
4. Teach factoring of special cases:
   $x^2 - y^2 = (x + y)(x - y)$
   $x^2 + 2xy + y^2 = (x + y)^2$
   $x^2 - 2xy + y^2 = (x - y)^2$
5. Stress fact that factoring trinomial is a trial and error method.
6. Use programmed material if possible.
7. Use overhead projector, chalkboard.
8. Use mathematical tic-tac-toe (see appendix)

C. Suggested Materials

   1. Preliminary Mathematics. op. cit.

   2. Fundamental Mathematics for Adults. op. cit.

D. Suggested Evaluation

   1. Let students explain different methods of factoring using overhead projector.

   2. Hand out duplicated sheets of all means of factoring from monomials to trinomials.

XVIII. Develop the use of the quadratic formula.

A. Specific Objectives

   1. Find roots through factoring.

   2. Use quadratic formula.

B. Suggested Activities

   1. Show students how to find root of equation through factoring.

   2. Develop the quadratic formula.

   3. Explain basic uses of quadratic formula.

   4. Relate to word problems.

   5. Use overhead projector and any other available equipment to add variety.

   6. Use films and filmstrips.

C. Suggested Materials

   1. Mathematics a Modern Approach. op. cit.

   2. Preliminary Mathematics. op. cit., pp 313-381.

   3. Fundamental Mathematics for Adults. op. cit.

D. Suggested Evaluation

   1. Solve quadratic equations by factoring.

2. Find the root of quadratic equations through use of quadratic formula.

XIX. Develop the base understanding and efficient use of logarithms.

A. Specific Objectives

1. Learn to convert exponential form to logarithms.
2. Develop skill in converting logarithms to exponential form.
3. Development of base ten (common) logarithms.
4. Efficient use of logarithm tables.

B. Suggested Activities

1. Explain thoroughly that if $b^n = a$, then $\log_b a = n$

   Example: $2^4 = 16$, then $\log_2 16 = 4$

2. Show students the reverse process and help them develop skill through practice.

   Example: $\log_3 27 = 3$, then $27 = 3^3$

3. Explain thoroughly that logarithms are exponents and the log of a number in base ten, is what the power that 10 would be raised.

   Example: $\log_{10} 1 = 0$ because $1 = 10^0$

   $\log 10 = 1$ because $10 = 10^1$

   $\log 100 = 2$ because $100 = 10^2$

4. Explain carefully characteristics, mantissor's and how to use the log tables.

C. Suggested Materials

1. Preparation for G.E.D., Arco
2. Available high school text books.

D. Suggested Evaluation

1. Have student convert exponential form to logs and logs to exponential form.
2. Duplicate parts of log tables, let student use to find logarithms.
3. Let student explain common logarithms to class.

XX. Development of understanding and uses of ratio and proportion.

A. Specific Objectives

1. To show that ratio is the correspondence between the numbers of two sets.
2. Develop that proportion is an equality between two ratios.
3. Teach that ratio may be expressed as a fraction and that there are other names for ratio.

B. Suggested Activities

1. Explain through use of models, one being 1/2 the size of the other. The ratio would be 2 to 1.
2. Show filmstrips
3. Use number line
4. Display charts and graphs.
5. Compare objects in classroom and set up as ratios.
6. Teach vocabulary
    a. ratio
    b. proportion
    c. comparison
    d. equivalence
    e. extremes
    f. means

C. Suggested Materials

1. Fundamental Mathematics for Adults. op. cit., pp 213-238.
2. Preliminary Mathematics. op. cit., pp 297-312.
3. Mathematics A Modern Approach. op. cit., pp 314-316

D. Suggested Evaluation

1. Have students devise and solve a problem in ratio and one in proportion.
2. Give duplicated tests
3. Play word games with vocabulary.

XXI. To develop the idea that geometry is primarily concerned with the patterns evident in two dimensions and the abstractions surrounding these patterns.

A. Specific Objectives

1. To give the student a clear understanding of the following terms: line, ray, line segment, angles, triangles, rectangle.
2. To help students develop a clear concept of a plane, congruency, and parallel.
3. To provide the students with an informal terminology applicable to the circle.
4. To help students understand the following terms: perimeter, area, and volume of a geometric figure.
5. To establish a basic geometric vocabulary.
    a. cone
    b. pyramid
    c. cube
    d. square

e. cylinder

f. prism

g. base

h. area

i. volume

j. plane

k. radius

l. quadrilateral

m. polygon

n. pentagon

o. hexagon

p. octagon

B. Suggested Activities

1. Identify geometric objects in the room.
2. Draw geometric figures on chalkboard or overhead projector transparency.
3. Demonstrate units of measure with concrete objects.
4. Use flannel board to illustrate.
5. Measure the degrees of angles
6. Measure the perimeter, area, volume, of other geometric figures.

C. Suggested Materials

1. Preliminary Mathematics. op. cit., pp 382-467
2. Fundamental Mathematics for Adults. op. cit., pp 129-258.
3. Mathematics, A Modern Approach. op. cit., pp 295-331.
4. Basic Mathematics, Measurement. op. cit., pp 46-150

D. Suggested Evaluation

1. Teacher-made test.
2. Let students identify geometric models.
3. Vocabulary recognition.

INDIVIDUAL PROGRESS RECORD

This record is to be placed on the front of the student's folder in which he keeps all of his mathematics work sheets. In this manner he can follow visually his own progress.

After the teacher introduces the suggested material to the student, he will place a check in the first column. Upon completion of work sheets provided by the teacher, in which he has correctly answered at least 80% of the problems, he places a check in the second column. The teacher will place a check in the third column after her evaluation of the student's ability to successfully complete the step.

	Introduction	Worksheets 80% Correct	Teacher Evaluation
1. Number theory			
A. Greater than			
B. Less than			
2. Recognize, write, use numbers			
A. 0 - 9			
B. 10 - 100			
C. Place value			
D. Interpret written numbers into numerals			
E. Interpret numerals into written words			
3. Addition			
A. One digit numbers both vertical and horizontal			
B. Two digit numbers			
4. Interpreting word problems			
A. Student written problems			
B. Word problems with simple addition			
5. Subtraction			
A. One digit numbers both vertical and horizontal			
B. Two digit numbers and checking			

	Introduction	Worksheets 80% Correct	Teacher Evaluation
6. Word Problems			
A. Word problems with subtraction			
B. Word problems with addition and subtraction			
7. Multiplication			
A. One digit numbers			
B. Three digit by one digit, no carrying			
8. Word problems with multiplication			
9. Division			
A. One digit numbers B. Two digits by one digit, no remainder			
10. Word problems with division			
11. Addition, increased skill			
A. Two digit numbers			
(1) Regrouping			
(2) Vertical and horizontal			
B. Three rows of three digit numbers			
C. Four digit numbers			
D. Columnar addition			
12. Subtraction, increased skill			
A. Two digit numbers and regrouping			
B. Three digit numbers			
C. Four digit numbers			
13. Multiplication, increased skill			
A. Three digits by one digit, including carrying			
B. Dollars by one digit			
C. Three digits by two digits			
D. Three digits by three digits			
14. Division, increased skill			
A. One-two digit dividends by one digit divisor, with remainder			
B. Three digits by two digits			

	Introduction	Worksheet 80% Correct	Teacher Evaluation
15. Word problems combining operations			
16. Four basic arithmetical functions in practical applications			
A. Increase or decrease measurements by whole numbers			
B. Compute average and estimation			
C. Distance, time, speed			
17. Practical geometry			
A. Location of places by number			
B. Perimeter, area, and square units of squares, rectangles, and triangles			
18. Fractions			
A. Greater than and less than			
B. Addition and subtraction of like fractions			
YOU HAVE COMPLETED LEVEL I. PROGRESS TO LEVEL II			
19. Fractions, increased skill			
A. Multiplication			
B. Division			
C. Addition and subtraction of unlike fractions and mixed numbers			
D. Mixed operations			
E. Fractional and mixture problems			
20. Decimals			
A. Read and write decimals			
B. Change decimals to fractions			
C. Addition			
D. Subtraction			
E. Multiplication			
F. Division			

	Introduction	Worksheet 80% Correct	Teacher Evaluation
21. Percent			
A. Read and write percent			
B. Change percents to decimals			
C. Change decimals to percent			
D. Change percents to fractions			
E. Change fractions to percent			
F. Find what percent one number is of another			
YOU HAVE COMPLETED LEVEL II PROGRESS TO LEVEL III			
22. Percent, increased skill			
A. Percents larger than 100 less than one and mixed (2.5%)			
23. Consumer Buying			
A. Installment buying			
(1) Long term (Houses etc.)			
(2) Short term (24-36 month, car)			
(3) Contract (12-25 months--furniture, etc.)			
(4) Emergency (medical, trouble, accident, etc.)			
B. Budgeting, including income and fixed expenses			
C. Values in purchasing			
D. Time (as related to earning power, workday, time clock, time and a half overtime)			
E. Taxes (Income, social security, property sales)			
F. Insurance			
G. Banking services			

	INTRODUCTION	Worksheet 80% Correct	Teacher Evaluation
YOU HAVE COMPLETED LEVEL III. PROGRESS TO G.E.D. LEVEL			
24. Squares and square root			
A. Square, one and two digits			
B. Square roots of perfect squares			
C. Squares of three digits			
D. Squares of fractions			
E. Square roots of fractions			
F. Squares of decimals			
G. Square roots of decimals			
H. Finding square root of any number			
I. Use of table			
25. Polynomials			
A. Monomials			
1. Addition			
2. Subtraction			
3. Multiplication			
4. Division			
5. Reduce			
B. Binomials			
1. Addition			
2. Subtraction			
3. Multiply			
4. Divide			
5. Reduce			
C. Multiply binomial by monomial			
D. Divide binomial by monomial			
26. Factoring			
A. Monomials			
B. Binomials (special cases)			
C. Trinomials			
27. Quadratic formula			
28. Logarithms			
A. Convert exponential form to logarithm			
B. Convert logarith to exponential form			
C. Base ten			
D. Use of tables			

	Introduction	Worksheet 80% Correct	Teacher Evaluation
29. Ratio and proportion			
30. Geometry			
A. Congruency			
1. angles			
2. triangles			
3. quadrilaterals			
B. Triangles			
1. right			
2. equilateral			
3. isosceles			
C. Parallel			
1. parallel lines, transversals			
D. Area of trapezoid			
E. Circles			
1. chords			
2. arcs			
3. circumference			
4. area			
. Volume of solids			
1. cube			
2. cylinder			

SAMPLE WORK SHEET

ARITHMETIC

1	2								

BINGO

Use individual bingo cards.

Example:

B	I	N	G	O
14	7			
5	0			
7	etc.	FREE		
1				
6				

Teacher calls B, shows a flash card of 2+3. If the student has B-5, he places a marker on the square. Game continues until someone says, "Bingo!"

A prize or some small treat may be given.

MAGIC SQUARES

Pass out duplicated sheets and let students fill in the blanks.

Example:

Master Copy

2	3	5
4	2	6
6	5	11

Student's Copy

2		5
	2	
		11

The sum of the first two horizontal squares in the third square,first row.

The sum of the second two horizontal squares is in the third square, second row.

The sum of each column is in the third row.

MATHEMATICAL TIC-TAC-TOE

Divide class into two teams. Put tic-tac-toe on board for subject matter being studied.

Example: Change decimals to percent.

.06	.74	.37
.17	1.36	.035
.25	.32	.006

Name one team X, the other team O. The first member from X, will choose a problem. If he works it correctly, he places an X in the square. Then it is team O's turn. Three X's or O's vertically, horizontally, or diagonally wins the game.

Example of special exercise at level of addition of two digits including regrouping.

1. $\begin{array}{r} 2 \\ \underline{+3} \end{array}$
2. $\begin{array}{r} 17 \\ \underline{+\ 1} \end{array}$
3. $\begin{array}{r} 23 \\ \underline{78} \end{array}$
4. $\begin{array}{r} 43 \\ \underline{21} \end{array}$
5. $\begin{array}{r} 17 \\ \underline{79} \end{array}$
6. $\begin{array}{r} 87 \\ \underline{19} \end{array}$
7. $\begin{array}{r} 22 \\ \underline{99} \end{array}$
8. $\begin{array}{r} 58 \\ \underline{26} \end{array}$
9. $\begin{array}{r} 347 \\ \underline{76} \end{array}$
10. $\begin{array}{r} 748 \\ \underline{329} \end{array}$

To simplify teaching students to write numbers, use graph paper. Examples are on next sheet.

As you attempt to teach addition and subtraction to the student, the graph paper may still be used.

2			
3			
5			

CITIZENSHIP AND SOCIAL SKILLS

CITIZENSHIP AND SOCIAL SKILLS

OVERVIEW

Assist adults in recognizing and understanding their rights and responsibilities as citizens.

OBJECTIVES

I. To provide opportunities for student involvement in service to the community, state, and nation

II. To assist those students who are registered aliens and who desire to pass the naturalization test

III. To provide students with functional knowledge of local, state, and federal government

IV. To assist the students in understanding their legal responsibilities and rights as a citizen in this community, state, and nation

CITIZENSHIP AND SOCIAL SKILLS

SUGGESTED OVERALL PROCEDURE

Read and study objectives thoroughly.

Read textbooks and related materials prior to class meeting.

Preview films and filmstrips prior to showing.

Ensure availability of materials.

Arrange for guest speakers (two weeks to one month ahead of time).

Use role playing and other student involvement techniques.

Provide opportunities for direct student involvement in projects.

CITIZENSHIP AND SOCIAL SKILLS

LEVELS I - III

I. To provide opportunities involving the student in service to the community, state, and nation

---

A. Concepts, skills, and understandings to be developed

1. Service to local community
    a. volunteer fireman
    b. volunteer policeman
    c. public office
    d. community projects
    e. health and welfare
    f. recreation leaders
2. Service to state and nation
    a. jury duty
    b. public office
    c. voting

B. Suggested Activities

1. Invite the fire chief; show fire prevention films; visit the fire station; observe fire drills in school, and conduct drills at home.
2. Invite local law enforcement officials; participate in volunteer policeman activities.
3. Invite public law enforcement officials (county and district attorneys); involve the student in trial-by-jury process through role playing; visit court room; show related films.

4. Invite mayor, councilmen, justices-of-the-peace, and other public officials.
5. Through class participation involve the student in community organizations, such as PTA, Civil Defense, Salvation Army, and Red Cross, United Fund, Cancer Fund, and beautification projects.
6. Invite county health officer, local doctors, and nurses. Through class participation, involve the student in health and welfare activities such as T. B. control, immunization programs, insect and pest control, etc.
7. Invite community recreation director. Through class participation involve the student in youth development programs such as Scouting, Little League, 4-H clubs, YMCA, etc.
8. Using mock voting machines, or paper ballots; involve students in voting, emphasizing appraisal of local, state and national issues. Activity may include:
    a. operating the voting machine in the booth.
    b. marking the ballot in the booth
    c. absentee voting at the county court building or city hall.

SUGGESTED MATERIALS

Films, filmstrips, transparencies and slides, available through the public school library. Check the county collection as well as the city library.

Manuals, guides, and maps available through the county clerk's and district clerk's offices. Also write to the Texas Highway Commission, Austin, Texas, for "Texas, America's Funtier." Includes State map in color.

Literature available through the Red Cross, Civil Defense, United Fund, Cancer Fund, etc.

Literature available through the County Health office, County Welfare, hospitals and clinics, post office, etc.

Literature available through the YMCA, Boys Clubs, youth centers, etc.

Books, references, and periodicals available in school and public libraries, etc.

Texas Election Code Manual, pamphlets, etc., on voting procedures and voters' rights.

Film and filmstrip projectors, overhead projector, felt board, charts, city maps.

II. To assist those students who are resident aliens in preparing for and passing the naturalization test

---

A. Concepts, skills, and understandings to be developed

1. Becoming an American citizen
    - a. preparing for the naturalization test
        - (1) literary requirements
            - (a) ability to read and write (refer to communications section)
            - (b) understanding of American history and government
        - (2) other requirements
            - (a) applying for citizenship
            - (b) filing for citizenship
    - b. taking the naturalization test
    - c. oath of allegiance
2. Continuing citizenship development after naturalization
    - a. participation in further adult education
    - b. service to community, state, and nation

      (see Objective I, this section)

B. Suggested Activities

1. Invite Immigration Service official to discuss steps necessary to naturalization. Involve class in designing a flow chart on naturalization procedures.
2. Through role playing, involve students in assuming the roles of immigration official and applicants in naturalization interview and test. Provide students with pertinent immigration forms. Make transparencies of forms for use with overhead projector.
3. Through group discussion determine the significance of the oath of allegiance. Using the tape recorder, involve each student in recording the oath.
4. Involve students in planning and carrying out a field trip to witness naturalization ceremony.

SUGGESTED MATERIALS

How to Become a United States Citizen, Angelica W. Cass, Noble and Noble Publishers, Inc., 750 Third Avenue, New York, 10017

Our American Way of Life, Book 1, Federal Textbook on Citizenship

Our United States, Book 2, Federal Textbook on Citizenship

Our Government, Book 3, Federal Textbook on Citizenship, United States Government Printing Office, Washington, D. C.

About the Constitution, A Scriptographic Booklet, Channing L. Bete Co., Inc., Greenfield, Mass.

My Country, Edwin H. Smith and Florence Rader Lutz, Steck-Vaughn Co., Austin, Texas

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III. To provide students with a functional knowledge of local, state, and federal government

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A. Concepts, skills and understandings to be developed

1. Distinguishing organizational structure between local, state, and federal governments
2. Understanding the kinds of services provided by local, state, and federal governments
    a. welfare services
    b. social security benefits, including medicare
    c. education
    d. health
3. Becoming acquainted with sources of revenue for local, state, and federal governments
4. Understanding the responsibilities of the three branches of government
    a. Executive
    b. Judicial
    c. Legislative

B. Suggested Activities

1. Invite city officials to discuss duties and responsibilities of local government officials. With class assistance, prepare a chart indicating organization of local government. This is an excellent class activity which has helped even children to understand the local government. Do not fail to try this as a means of encouraging interest.

2. Invite county officials (commissioners, clerk, sheriff and deputies, to discuss duties and responsibilities of county officials. Involve students in developing a chart outlining county government.
3. Discuss duties and responsibilities of state governmental key officials. With class participation, work out a flow chart outlining the governmental processes at state level.
4. Discuss duties and responsibilities of key federal officials and how they directly affect the citizen. Develop a "simplified" flow chart outlining the governmental process at federal level and how it ties in with state and local levels.
5. Invite social security, welfare, and other governmental agents available to discuss and outline the functions of state agencies.
6. Review with the class the services offered by their community and how these services are financed through federal income taxes, state and local sales and ad-valorem taxes.
7. With assistance from the students, design a flow chart outlining the individual and interrelating functions of the three branches of the federal government.
8. Discuss the evolution of a bill from birth to passage, and how appropriations are made after laws are passed. (This is a difficult one. Allow a minimum of two weeks).

SUGGESTED MATERIALS

y Country, Steck-Vaughn Co., Austin, Texas

Our United States, Steck-Vaughn Co., Austin, Texas

Our Democracy, Steck-Vaughn Co., Austin, Texas

What Everyone Should Know About the Constitution, A Scriptographic Booklet, Channing L. Bete Co., Inc., Greenfield, Mass.

Films and filmstrips on the various departments and agencies of the federal and state governments, obtainable from the various departments and agencies of the federal and state governments

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IV. To assist the students in understanding their legal responsibilities and rights as citizens in their community, state, and nation

---

A. Concepts, skills, and understandings to be developed

1. Understanding the citizen's legal responsibilities to the community, state, and nation
    a. understanding the need for federal, state, and local taxation
        (1) city ordinance and maintenance (see suggested activity no. 6, Objective III, this section)
            (a) police department
            (b) fire department
            (c) water department
            (d) sanitation department
            (e) streets and maintenance department
            (f) zoning of city
            (g) libraries within the city or county
            (h) parks and public recreational centers and facilities within the city, county, or State.
        (2) state and federal services to the citizen (see suggested activity no. 2, Objective III, this section)

- (a) social security, medicare, and aid to dependent children
- (b) civil defense
- (c) military services
- (d) public education, including adult education
- (e) other federally financed programs and projects designed to improve the citizen's social and economic environment
- (f) federal and state highways
- (g) national and state parks
- (h) federal, state, and community administration

2. Understanding the citizen's legal rights in the community, state, and nation
   - a. The Bill of Rights
     - (1) freedom of religion, press, speech, assembly, and petition
     - (2) the right to bear arms
     - (3) freedom from search
     - (4) protection of accused
     - (5) rights of accused persons
     - (6) trial by jury
     - (7) no excessive fines or cruel punishment
   - b. other citizen's rights
     - (1) protection of political rights of minority groups under the 15th Amendment
     - (2) guarantee under the 24th Amendment of the right to vote regardless of failure to pay poll or other taxes

3. **Understanding the three types of law**
   - a. **common law--principles, procedures and rules of action deriving their authority from usage and custom rather than from legislative enactment**
   - b. **statutory law--as written down by Congress and state legislatures to improve, change, add to or delete common law or existing statutory law. Also, "case law," the interpretation of statutory and common laws by decisions of judges**
   - c. **administrative law--governing procedures of regulative and licensing authorities, such as Federal Communications Commission, Postmaster-General, etc.**
4. Understanding how law affects the citizen
   - a. contracts (legal agreements)
     - (1) business
     - (2) marriage and divorce
     - (3) employer and employee
     - (4) buying and selling
     - (5) agency contracts
     - (6) bailment contracts
   - b. civil laws ("torts"--civil wrongs) --the rights of the individual to protect himself and his property
     - (1) injury to the individual's body
       - (a) auto accidents
       - (b) injuries "on the job"
     - (2) injury to the individual's property--auto accidents, etc.

        (3) injury to the individual's personal liberty
            (a) unlawful arrest
            (b) threat by assault
            (c) false imprisonment
        (4) injury to the individual's reputation through libel or slander

B. Suggested Activities

1. Involve the students in working out schematic charts outlining the multiple applications of revenues by the federal government.
2. Follow up with schematic charts worked out by the students alone on how revenues are put to use by the state and community.
3. Obtain copies of city charter and public records showing how public funds are distributed to the various departments. Make transparencies for use with overhead projector. Show and discuss.
4. Plan on trip to the public library to encourage the students to make better use of its services.
5. Invite the director of city sanitation to discuss with the students the value and purpose of the sanitation department's functions.
6. Invite the city engineer to discuss with the students the cost and work involved in street maintenance.
7. Obtain city zone map and discuss with students the purpose of and goals involved in city zoning.
8. Invite city officials to discuss with students the necessity of Having recreational centers and the cost of upkeep.

9. Invite civil defense official to discuss with the students the responsibilities and purpose of civil defense. Obtain literature at the post office and public and school libraries. Select films or filmstrips, if available, to accompany lesson.

10. Invite directors of Headstart, Child Care, NYC, Mainstream, and Title I to discuss with students the goals and objectives of these projects and how they are funded.

11. Invite VFW official to discuss with the students the purpose of keeping and maintaining the armed services and how funds are appropriated.

12. Explain the purpose of state and national parks. Obtain films, filmstrips, and literature from school and public libraries.

13. Invite the city treasurer to discuss with the students the costs of running local, state, and federal administrations, justifying salaries and other expenses.

14. Invite the county judge or an attorney to explain and discuss with the students the Bill of Rights and the 24th Amendment, and the significance these bear on the everyday life of the citizen.

15. Invite local attorney to discuss with the students the most common cases involving loan laws.

SUGGESTED MATERIALS

Our Democracy, Steck-Vaughn, Austin, Texas

Our Nation, Steck-Vaughn, Austin, Texas

Our United States, Steck-Vaughn, Austin, Texas

What Everyone Should Know About Congress

What Everyone Should Know About the Constitution

What Everyone Should Know About Government

What Everyone Should Know About Law, Channing L. Bete, Co., Inc., Greenfield, Mass.

Our American Way of Life, Book 1, Federal Textbook on Citizenship

Our United States, Book 2, Federal Textbook on Citizenship

Our Government, Book 3, Federal Textbook on Citizenship, United States Government Printing Office, Washington, D. C.

What Everyone Should Know About Law, A Scriptographic Booklet, Channing L. Bete Co., Inc., Greenfield, Mass.

What Everyone Should Know About the Constitution, A Scriptographic Booklet, Channing L. Bete Co., Inc., Greenfield, Mass.

CITIZENSHIP AND SOCIAL SKILLS

GED Level

GOAL

The adult will understand his rights and responsibilities as an American citizen by taking an active part in shaping political, social, and economic events.

OBJECTIVES

The student will be able to describe how his government makes and changes laws and policies.

A. The student will be able to describe step by step from a diagram of the structure of the federal government how a bill becomes a law.

B. The student will be able to describe step by step from a schematic diagram of the state government how a bill becomes a state law.

C. The student will be able to describe from schematic diagram of the county and city governments how ordinances and policies are established.

II. The student will be able to list 50 of the most significant historic events which relate to current foreign and domestic policies of the United States.

III. The student must be able to become a naturalized citizen of the United States by completing the proper requirements.

IV. The student will be able to list and describe the purpose of all social agencies in his community.

V. The student will be able to list five similarities and five differences between the two major political parties in the United States.

VI. The student will demonstrate his ability to vote by qualifying as a voter, participating in a mock election in the classroom and voting in one actual election (if possible) during the year.

VII. The student will be able to describe the functions of a court of law including the special duties of a judge, attorney (defense and prosecutor) and jury.

VIII. The student will express his feeling in an essay concerning his role in our democracy.

IX. The student will list at least three ways he can assist in changing for the better, his social, economic, and political future.

I. The student will be able to describe how his government makes and changes laws and policies

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Suggested Activities

1. Have the students select from the newspaper current articles pertaining to ordinances, laws, and policies being discussed.
2. Relate each article to the agency, branch, or division of government from which it originated.
3. Have the student make notes on television and radio programs currently discussing the selected topics.
4. Use films, film strips, slide, records, and tapes obtained from schools, telephone company, and public libraries.
5. Distribute to the students a schematic diagram of the structure of the local, state, and federal governments.
6. Discuss with the students the relationship of each division of government to another.
7. Take the class on a field trip to (a). federal courthouse, (b). county courthouse, (c). city hall, (d). and various departments of the city.
8. Invite elected and other public servants to speak to the class.

II. The student will be able to list 50 of the most significant historic events which relate to current foreign and domestic policies of the United States.

Suggested Activities

1. Have the students select several major current issues concerning

domestic and foreign policy of the United States (including current local issues).

2. Trace these issues back to their origin.
3. As a historically significant event is discussed, expand on the event to include its origins and causes.
4. Have the students take notes on television and radio news,stories and discuss.
5. Provide the students with free and inexpensive United States Government Printing Office publications relating to United States history, government, and policy.
6. Have the students write at least two letters to their local, state, or federal elected officials requesting information, urging legislation, criticising or commending.
7. Use films, film strips, slides, records, and tapes from schools, public libraries, or telephone companies. Use sample forms to be completed for United States citizenship.
8. Invite elected officials to visit and speak to the class.
9. Take the class on field trips to historic sites, museums, lectures, social events, cultural centers (especially if these events can add to the understanding of current socio-ethnic events).

III. The student will be able to become a naturalized citizen of the United States by completing the proper requirements.

Suggested Activities

1. Provide the necessary information on becoming a United States citizen to the student by consulting the nearest United States Immigration and Naturalization Office.

2. Establish a schedule for completing each of the requirements for United States citizenship.

3. Obtain the free materials on how to become a United States citizen by requesting the material from:

Director
Immigration and Naturalization Service
El Paso, Texas
or
San Antonio, Texas

4. Contact the local League of United Latin American Citizens, G.I. Forum, or other local service group which can assist the student in preparing for United States citizenship.

5. Set up mock situation of citizenship examiner vs. candidate for citizenship (role playing).

6. Check the students frequently on their progress. (Do not needlessly rush the student into taking the exam before he is fully prepared.) The ability to speak and understand English is absolutely essential, unless the student can qualify to take the exam in Spanish.

IV. The student will be able to list and describe the purpose of all social agencies in the community.

Suggested Activities

1. Distribute to the students a list and brief description of all social agencies in the community and discuss their relations to the students' needs or the needs of the community.

2. Use film, filmstrips, slides, records, and tapes provided by social agencies or other agencies. (For example State Health Department, United Fund, Family Services, Jewish Community Center, Y.M.C.A., Y.W.C.A., etc.

3. Invite guest speakers from service agencies to speak to the students.
4. Take field trips to social agencies and related agencies (hospital, employment office, etc.)

V. The student will be able to list five similarities and five differences between the two major political parties in the United States.

Suggested Activities

1. Discuss the historical origin of the two major political parties.
2. Ask the students to find similarities between the two political parties.
3. Ask the students to find differences between the two political parties.
4. Use films, filmstrips, slides, records, and tapes from local political organizations.
5. Ask the student to describe his own political beliefs.

VI. The student will demonstrate his ability to vote by qualifying as a voter, participating in a mock election in the classroom, and voting in at least one actual election during the year.

Suggested Activities

1. Distribute to each student a step-by-step procedure of how to qualify as a voter.
2. Discuss the qualifications for a registered voter in light of each kind of election.
3. Invite public officials to speak to the class.
4. Use overhead projector and sample voter registration forms.

VII. The student will be able to describe the functions of a court-of-law including the special duties of a judge, attorney, (defense and prosecutor) and jury.

Suggested Activities

1. Distribute to the students a list of the names, titles and duties of each local judge, county attorney, city and district attorney. Discuss.
2. Visit a court-of-law in progress.
3. Invite guest speakers to class--such as district, county, and city attorneys; judges; police chief; police officers; and representatives from the local bar association.
4. Distribute a diagram which illustrates and explains the function of each person in a court-of-law.
5. Sep up a mock court to deliberate a hypothetical case involving a situation common to most of the students.

VIII. The student will express his feeling concerning his role in our democracy by writing an essay.

Suggested Activities

1. Ask each student to discuss his feelings toward the local community, local government, state, and federal government.
2. Ask several outstanding community leaders to serve as judges in an essay contest concerning the topic of the adults role in a democracy. Ask each student to contribute an essay.

IX. The student will list at least three ways he can assist in changing for the better his social, economic, and political future.

Suggested Activities

1. Discuss with the class the current status of the community.
    a. discuss those things which could be improved
    b. discuss who is responsible for changing the conditions
2. Discuss those things in the community which cannot be changed.
3. Discuss with each individual the things he would like to see changed and how he could best serve to bring about this change in a positive and constructive way.
4. Ask the students to write down three ways in which they can assist in changing those changeable things in their community.

SCIENCE AND HEALTH

INTRODUCTION TO SCIENCE

The adult science program is only as good as the individual teacher, who is responsible for carrying out the science program. No course of study can take the place of an alert and skillful teacher.

This guide was created to stimulate the teacher to present the best program possible. Another step forward in the teacher's task is to develop the potentiality of active, thinking men and women.

SCIENCE

OVERVIEW

To provide the student with basic science information related to everyday application.

GENERAL OBJECTIVES

I. The student is able to understand weather reports and deal with hazards caused by weather.

II. The student is able to purify water and to understand the use of solvents.

III. The student is able to learn about the earth formation and our natural resources.

IV. The student is able to name the parts of the human body that involve communication.

V. The student is able to understand basic principals of electricity, magnetism, and machines.

I. The student is able to understand weather reports.

A. Specific Objectives

1. Weather and climate
    - a. environmental influences
    - b. weather hazards
    - c. forecasting weather
    - d. precipitation

B. Suggested Activities

1. Discuss illustrations of various types of weather.

2. Give advantages and disadvantages of different seasons.

3. Explain weather hazards such as flooding, tornado, hurricane, high wind, and excessive cold or hot temperatures.

4. Ask students about protective measures to be taken in the event of natural disasters.

5. Field trip to local civil defense office and to local weather station.

6. Resource people.

7. Have students predict weather for next class session.

C. Suggested Materials

1. Write: Superintendent of Documents
Government Printing Office
Washington, D. C. 20202 (weather bulletins)

2. Write: Texas State Health Department
Austin, Texas (bulletins on weather information)

3. Learn to Live with Civil Defense, Director, Adult Basic Education Division, Texas Education Agency, Capitol Station, Austin, Texas 78711

II. The student is able to purify water and to understand the use of solvents.

A. Specific Objectives

1. Purification of water

   a. distillation

   b. chlorination

   c. filtration

   d. boiling

2. Recognition of polluted water

3. Types of solvents
    a. acetone
    b. gasoline
    c. turpentine
    d. vinegar

B. Suggested Activities
    1. Have students boil water and then run it through filter.
    2. Have students list uses of water.
    3. Have students make posters to identify different types of solvents.
    4. Fill empty medicine bottles with various types of solvents, label for student identification, and then remove labels for same activity.
    5. Have students bring pieces of cloth for spot removal demonstrations.
    6. Have class discuss the dangers of using some solvents.
    7. Show reasons why plastic containers should be used in the storage of water and solvents.

C. Suggested Materials
    1. Safety: Behavioral Research Laboratories, Box 577, Palo Alto, California.
    2. Write: Texas Safety Association, Littlefield Building, Austin, Texas 78711.
    3. Write: Department of Public Safety, Office of Disaster Relief, Austin, Texas.
    4. Write: Civil Defense Adult Education, Texas Education Agency, Austin, Texas 78711.

III. The student is able to learn about the earth formation and our natural resources.

A. Specific Objectives

1. Earth formation
   - a. rocks and minerals
   - b. oil and gas
   - c. timber
   - d. water

B. Suggested Activities

1. Have students bring small rocks to class and observe and discuss the different types.
2. Discuss the world globe and its relation to other planets.
3. Explain the earth's formation and how rivers and lakes were formed.
4. Show pictures of prehistoric animals. Discuss.
5. Ask students about the importance of gas and oil. Where does it come from and how is it refined?
6. Explain how water power is used to make electricity.
7. Show pictures of dams and electrical plants.
8. Have a discussion on trees and their importance to our lives. Use pictures.
9. Talk about the kinds of trees and lumber used in your area for home building.
10. Explain the main uses of lumber.
11. Explain the preventive steps we should take to maintain our forests.

12. Use resource people.

C. Suggested Materials

1. Write: Texas Parks and Wildlife Commission, Capitol Station, Austin, Texas.

2. Write: Superintendent of Documents, Government Printing Office, Washington, D. C. 20202.

3. Science: Holt, Rinehart and Winston, Inc., 383 Madison Avenue, New York, New York 10017.

4. Readers Digest Science Reader, Blue Book, Readers Digest Services, Inc., Pleasantville, New York.

5. Basic Science for Living, Books I and II, Steck-Vaughn Co., P. O. Box 2028, Austin, Texas 78767.

6. This Earth of Ours, Steck-Vaughn, Co., P. O. Box 2028, Austin, Texas 78767.

IV. The student is able to name the parts of the human body that involve communication.

A. Specific Objectives

1. The five senses

    a. sight

    b. hearing

    c. smell

    d. taste

    e. touch

B. Suggested Activities

1. Have students discuss various parts of the body and its functions.

2. Show diagrams of eye, ear, nose, and mouth.
3. Give students an object and have them relate to you according to senses. (Example - sugar cube)
4. Explain sound and vibrations.
5. Use resource people such as doctors, nurses.
6. Field trips to clinics and hospitals.

C. Suggested Materials

1. Write: State Department of Publis Health, Austin, Texas.
2. Write: Superintendent of Documents, Government Printing Office, Washington, D. C. 20202
3. My Health Reader, Office of the Dean, Division of Extension, The University of Texas, Austin, Texas 78712.
4. Physical Science, Holt, Rinehart and Winston, 383 Madison Ave., New York, New York 10017.
5. Personal Health, Behavioral Research Laboratories, Box 577, Palo Alto, California.
6. Write: Health Publications Institute, 217 North Davison St., Raleigh, North Carolina

V. The student is able to understand basic principles of electricity, magnetism, and machines.

A. Specific Objectives

1. Simple Machines
    a. lever
    b. inclined plane
    c. pulley

        - d. wheel and axle
        - e. wedge
        - f. screw
    - 2. Compass
    - 3. Terminology in electricity

B. Suggested Activities

1. Have student start list of related vocabulary words.
2. Demonstrate with batteries, Christmas lights, and small appliances.
3. Demonstrate circuit breakers and the use of a fuse.
4. Explain the flashlight's operation.
5. Recharge small batteries in class.
6. Have students name some uses of electricity.
7. Ask students the causes and effects of magnetism.
8. Have students relate their experiences with the six simple machines.
9. Demonstrate the advantages of using certain machines.
10. Use resource people such as automobile mechanics, appliance repairmen, electrical power plant officials, and telephone representatives.

C. Suggested Materials

1. "Mr. Bell Invents the Telephone," Local Telephone office or write: Southwestern Bell Telephone Co., 909 Colorado, Austin, Texas 78701.
2. General Science, Amsco School Publications, Inc., 3047 Phyllis Lane, Dallas, Texas 75234.

3. Temac Engine Unit, Encyclopaedia Britannica Educational Corp., 1414 Dragon St., Dallas, Texas 75207.
4. Understanding the Automobile, Follett Publishing Co., 1010 West Washington Blvd., Chicago, Illinois.
5. Vocational English, Book I. Globe Book Company, Inc., 175 Fifth Avenue, New York, New York 10010.

HEALTH

Since any one of the ideas presented can be taught independently of any other idea and since there is no real or implicit hierarchy of ideas, the division of the health section into levels would seem inappropriate. Health areas have been included that may or may not be applicable to local student's educational ability. By making the student aware of general good health practices, he is made aware of many opportunities to practice these newfound health needs wherever he may be and whatever he may be doing.

It is recommended that health be used as a vehicle to teach communication skills and their competency rather than being viewed as an isolated subject.

HEALTH

OVERVIEW

To provide the student with the opportunity to learn the basic principles of health applicable to his daily needs.

GENERAL OBJECTIVES

I. The student is able to practice the requirements of good health habits.

II. The student is able to locate and use the health services available in his community to satisfy the needs of his family.

III. The student learns to recognize and eliminate health hazards in his home.

IV. The student learns the requirements of the four basic food groups so as to maintain good nutrition.

I. The student is able to practice the requirements of good health habits.

A. Suggested Content:

1. Personal and family cleanliness
    - a. hair
    - b. nails
    - c. proper bath
    - d. halitosis
2. Clothing

3. Environmental
    a. house
    b. yard
    c. disposal of garbage
    d. pest control
4. Structure and care of eyes, ears, teeth, feet, and skin may be included if needed.

B. Suggested Activities

1. Discuss illustrated pictures of well-groomed and not well-groomed people.
2. Give demonstrations on grooming hands, hair, feet, etc. Good illustrations may be found in "Beauty is Easy----At Any Age". See suggested materials.
3. Use clothing specialists, such as managers of dry goods stores and dry cleaners, as resource speakers.
4. Bring soap boxes to class and read to compare instructions. Test power of detergent by putting one teaspoon of soap in a pint container half-filled with water, a small piece of colored cloth to test color, shrinkage, and cleanliness.
5. Sponsor a beautification project and engage a community agency willing to evaluate the results.
6. Study pests and control.
7. Conduct field trips through city sanitation, water plants, dry cleaning establishments, or clothing factory.
8. List home cleanliness practices; such as disinfecting garbage cans, lining cans, lids on cans, etc.

9. Begin a community "clean up" project. Begin with students' homes.

C. Suggested materials

1. Write: Superintendent of Documents, Government Printing Office, Washington, D. C. 20202, for a list of available bulletins on health.
2. Write: Texas State Health Department, Austin, Texas, for a list of available films, filmstrips, and bulletins.
3. "Beauty is Easy....At Any Age". Order from: Cleanliness Bureau, The Soap and Detergent Association, 485 Madison Avenue, New York, N. Y., 10022. A booklet for each student may be purchased for 6¢ each.
4. My Health Reader: Order from Office of the Dean, Division of Extension, The University of Texas, Austin, Texas 78712.
5. Other suggested material may be found in Suggested Materials for Basic Education for Adults, Texas Education Agency.
6. Personal Health, obtain from Behavioral Research Laboratories, Box 577, Palo Alto, California.
7. The Care We Give Our Clothes, obtain from Steck-Vaughn Co., P. O. Box 2028, Austin, Texas 78767.

II. The student learns the requirements of the four basic food groups so as to maintain good nutrition.

A. Specific Objectives

1. Balanced diet
   - a. milk
   - b. meat

        c. vegetables and fruits

        d. bread and cereal groups

    2. Recognition of spoiled food.

    3. Using basic food groups as a guide for economical shopping.

        a. meal planning

        b. diet and nutritional control

B. Suggested Activities

    1. Arrange a display of four basic foods on bulletin board. Let student place picture under correct group.

    2. Discuss nutrients: proteins, carbohydrates, fats, minerals, vitamins.

    3. Conduct class discussion of weekly grocery advertisements.

    4. Illustrate balanced diet with filmstrips and transparencies.

    5. Illustrate the results of an improper diet by the use of transparencies.

    6. Use resource person such as, doctor, nurse, city or county health official.

    7. Arrange a field trip to a food industry, supermarket, etc.

    8. Discuss various methods of food preparation.

C. Suggested Materials

    1. Nutrition, order from Behavioral Research Laboratories, Box 577, Palo Alto, California.

    2. Guide to Good Eating, leaflet. Obtain from National Dairy Council, 111 North Canal Street, Chicago, Illinois.

    3. We Are What We Eat. Obtain from Steck-Vaughn Co., P. O. Box 2028, Austin, Texas 78767.

4. Food for the Family with Young Children, pamphlets, G-5 16pp. 1963 U.S. Department of Agriculture. Order from Consumer and Food Economics Research Division, Washington, D. C.

5. Teachers may write individually for a brochure of free materials and publications from the following:

   a. Mr. Sam Von Rosenberg
   American Dairy Association
   2003 North Lamar
   Austin, Texas

   b. National Dairy Council
   Chicago, Illinois
   (Feeding Little Folks)

   c. National Livestock and Meat Board
   36 South Wabash Avenue
   Chicago, Illinois 60603

   d. Health Publications Institute
   217 North Davison Street
   Raleigh, North Carolina

III. The student is able to locate and use the health services available in his community to satisfy the health needs of his family.

A. Specific Objectives

1. Inoculations
   - a. measles
   - b. polio
   - c. mumps
   - d. diptheria
   - e. small pox
   - f. tetanus
   - g. whooping cough
   - h. colds and flu

2. Periodic check-ups
    a. cancer
    b. tuberculosis
    c. blood count
    d. venereal disease
3. Superstitions
    a. "old wives tales"
    b. home remedies (good and bad)
    c. healers
4. Prescriptions
    a. patent medicines
    b. other people's medicines
5. Insect and reptile hazards
    a. spiders
    b. ticks
    c. snakes
    d. scorpions
    e. mosquitoes
    f. lice
6. Birth control

B. Suggested Activities

1. Collect advertisements concerning health cures and treatments and try to evaluate them.
2. Invite a representative of Planned Parenthood or a doctor to speak on birth control.
3. Field trip to the local health clinic.
4. Teacher and students start a collection of superstitions.

5. Discussion on preventive action for insects, diseases, and accidents.

C. Suggested Materials

1. Prevention of Communicable Disease, Behavioral Research Laboratories, Box 577, Palo Alto, California.

2. They Work and Serve, Steck-Vaughn Company, P. O. Box 2028, Austin, Texas 78767.

3. See I-C.

IV. The student learns to recognize and eliminate the health hazards in his environment.

A. Specific Objectives

1. Household products
   a. reading labels and directions
   b. storing
   c. identifying dangerous symbols
   d. using drugs and medicines properly
   e. using inflammables safely
   f. handling electrical appliances
2. Water dangers
   a. recreational uses
   b. water purification
   c. identification of warnings
3. Household pets
   a. dogs (rabies)
   b. cats (ringworms & rabies)
   c. rabbits (encephalitis)

4. **Occupational hazards**
    a. **tools**
    b. **machinery**
5. Student's ability to recognize insecticides.
    a. decontamination of vegetables & canned goods
    b. exposure to insecticides
6. Recognition of community hazards
    a. drainage
    b. street conditions
    c. power lines and plants
    d. railroad crossings
    e. abandoned buildings

B. Suggested Activities

1. Have students bring many kinds of labels to class.
2. Use posters or charts indicating danger symbols such as, poison, railroad crossings, fire-exit signs, stop signs, slow-moving vehicles.
3. Show students that most poison labels also include antidote instructions.
4. Bring publications to class for discussion concerning health hazards.
5. Encourage student to participate in free medical self-help classes, Civil Defense, Adult Education, Red Cross First Aid and swimming instruction.
6. Make a list of items including advertisements in newspapers and magazines, radio and television, that stress weight control and physical improvements.

C. **Suggested Materials**

1. What Insect Is That? Obtain from American Education Publication, 1250 Fairwood Avenue, Columbus, Ohio 43216.
2. Safety: Behavioral Research Laboratories, Box 577, Palo Alto, California.
3. Exploring Health, Steck-Vaughn Co., P. O. Box 2028, Austin, Texas 78767.
4. Teachers may write individually for a brochure of free materials and publications:

    a. District Manager
    John Hancock Mutual Life Insurance Company
    305 West 19th Street
    Austin, Texas

    b. Cleanliness Bureau
    40 East 41 Street
    New York, New York 10017
    Ruth D. Goalberg

    c. Institute of Life Insurance
    277 Park Avenue
    New York, New York 10017

    d. Texas Safety Association
    Littlefield Building
    Austin, Texas

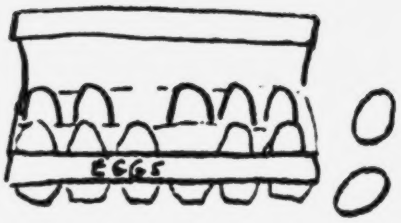
    e. National Safety Council
    425 North Michigan Avenue
    Chicago, Illinois 60611

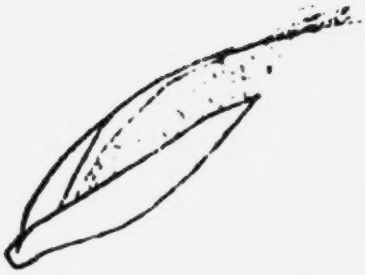
    f. Department of Public Safety
    Office of Disaster Relief
    Austin, Texas

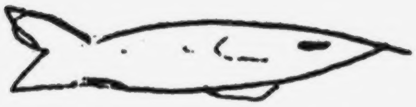
    g. Chief Consultant
    Civil Defense Adult Education
    Texas Education Agency
    Austin, Texas 78711

V. Evaluation

1. Observe whether or not the students show a noticeable improvement in his grooming habits.
2. Receive students' opinions of personal grooming habits.
3. Have students make sample meal plan using four basic food groups.
4. Have students participate in simulated grocery buying activities.
5. Ask students to show the immunization records for themselves and their children.
6. Have students list the possible health hazards within the home.
7. Have students list the available community agencies.
8. Give a comprehensive, teacher-made evaluative instrument over the entire health unit.





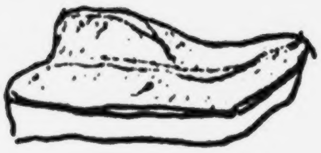


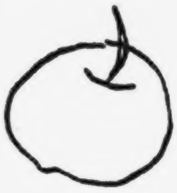
Milk - Cheese

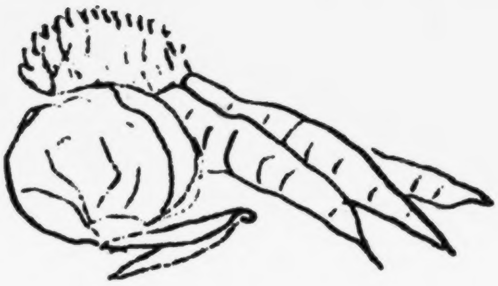
Bread - Cereal

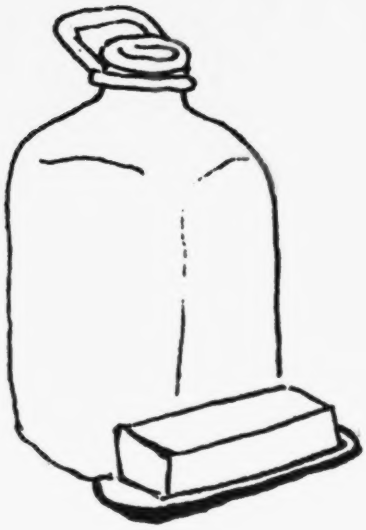
Meat - Eggs

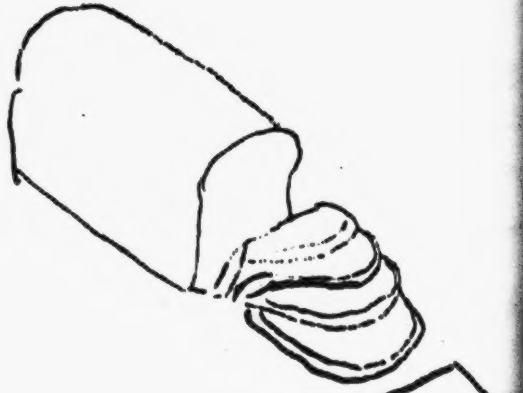
Fruit - Vegetable





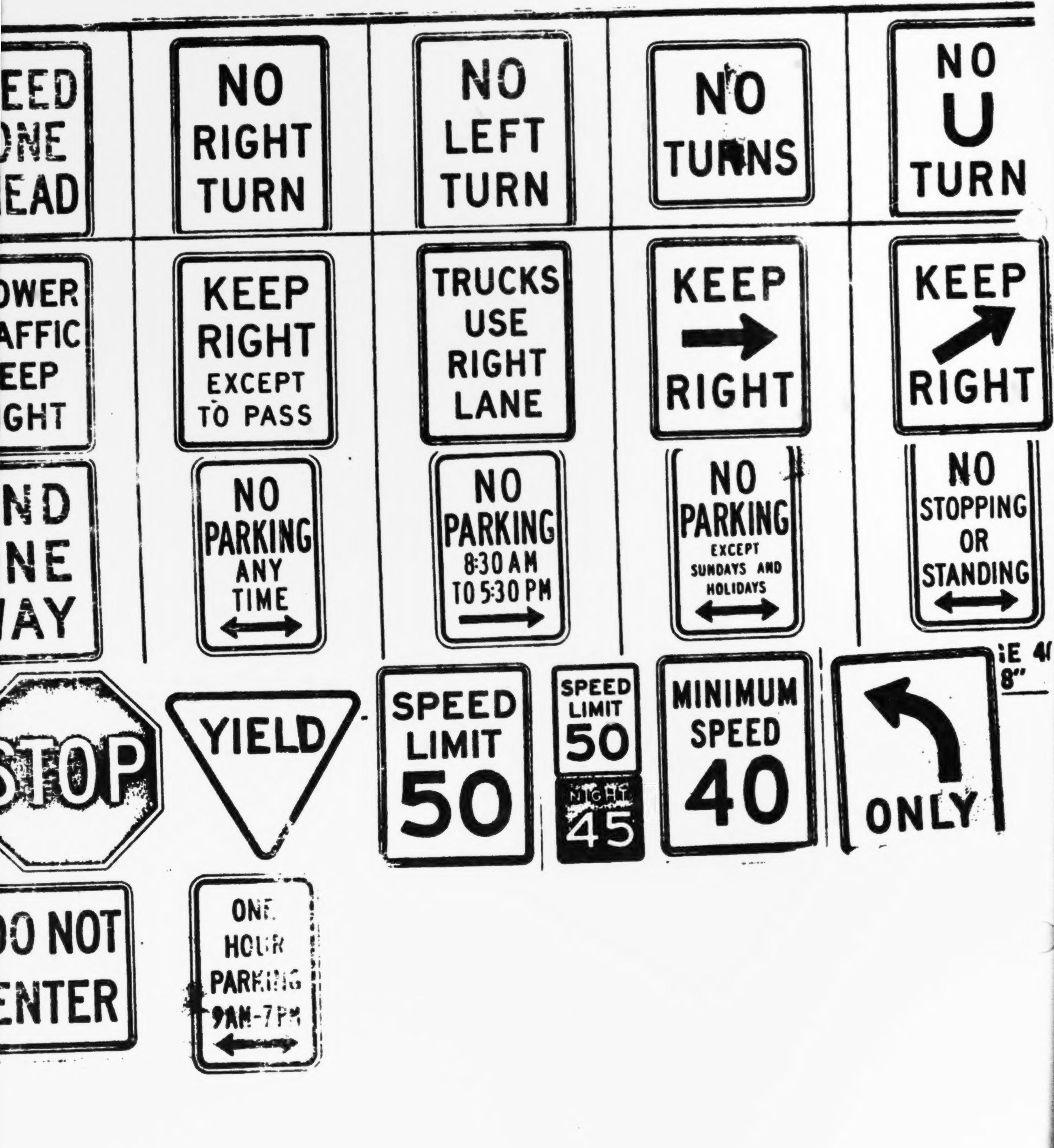






Draw a line from the picture
to the correct
food group.

REGULATORY SIGNS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NO RIGHT TURN
NO LEFT TURN
NO TURNS
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KEEP RIGHT EXCEPT TO PASS
TRUCKS USE RIGHT LANE
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KEEP RIGHT
ND NE AY
NO PARKING ANY TIME
NO PARKING 8:30 AM TO 5:30 PM
NO PARKING EXCEPT SUNDAYS AND HOLIDAYS
NO STOPPING OR STANDING
STOP
YIELD
SPEED LIMIT 50
SPEED LIMIT 50
NIGHT 45
MINIMUM SPEED 40
ONLY
E 4
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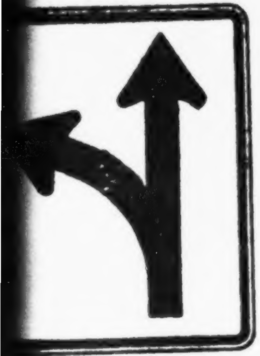
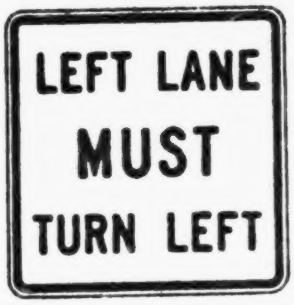
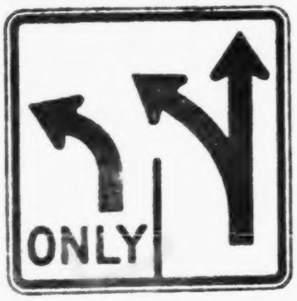
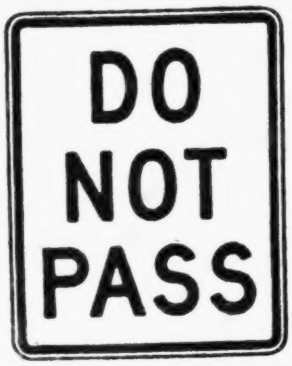
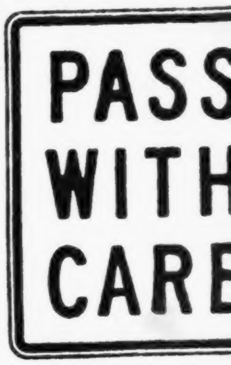
ONE HOUR PARKING 9AM-7PM

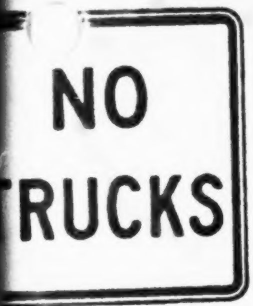



LEFT LANE
MUST
TURN LEFT


ONLY


DO
NOT
PASS


PASS
WITH
CARE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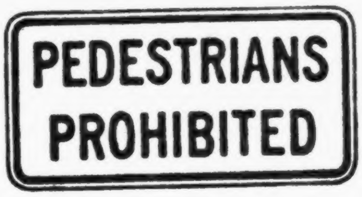
TRUCKS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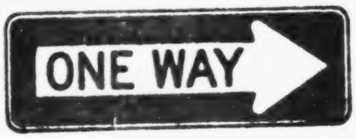
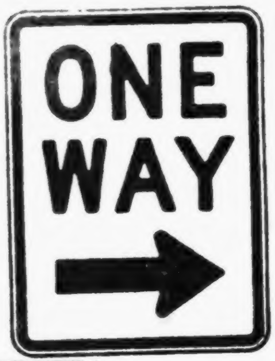
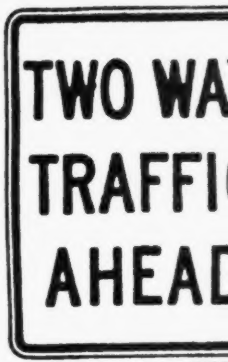
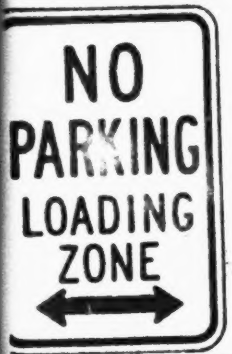
PROHIBITED


ONE WAY


ONE
WAY


TWO WA
TRAFFI
AHEA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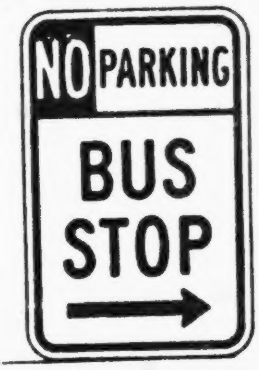
PARKING
LOADING
ZONE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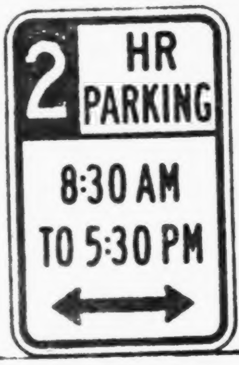
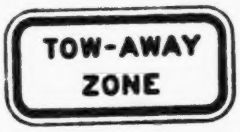
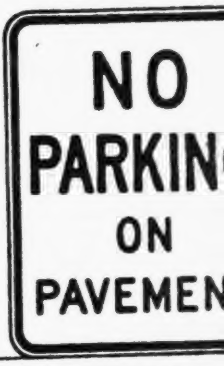
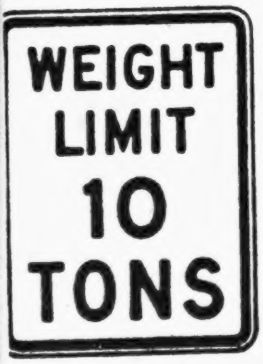
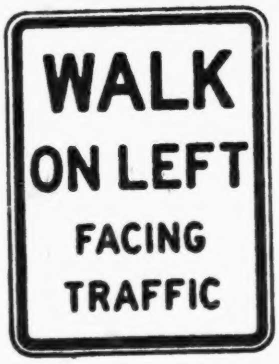
BUS
STOP

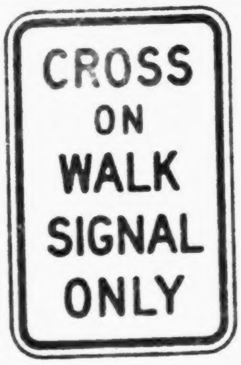

2 HR
PARKING
8:30 AM
TO 5:30 PM

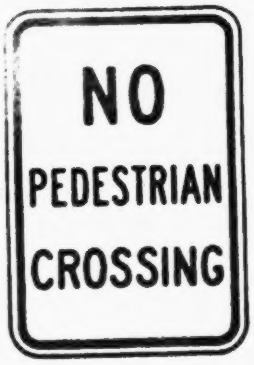

TOW-AWAY
ZONE

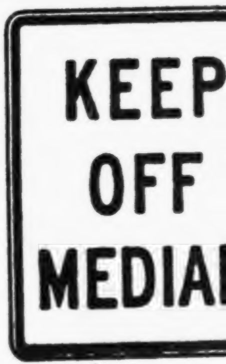

NO
PARKIN
ON
PAVEMEN

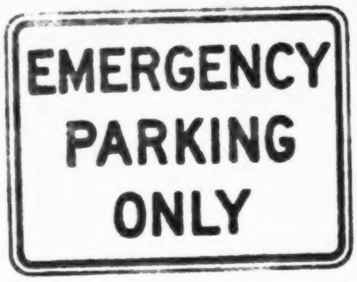

WEIGHT
LIMIT
10
TONS


WALK
ON LEFT
FACING
TRAFFIC

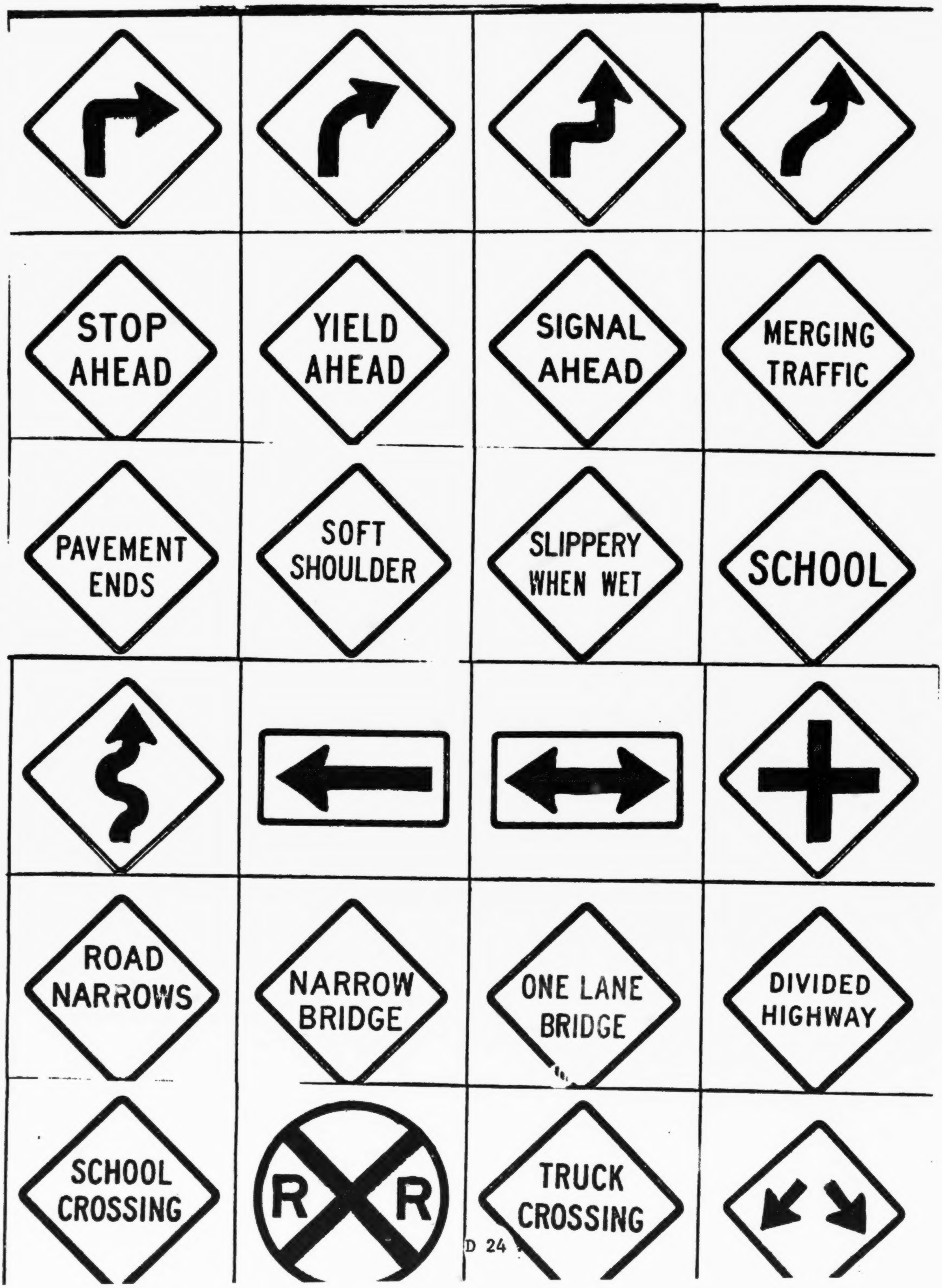

CROSS
ON
WALK
SIGNAL
ONLY


NO
PEDESTRIAN
CROSSING

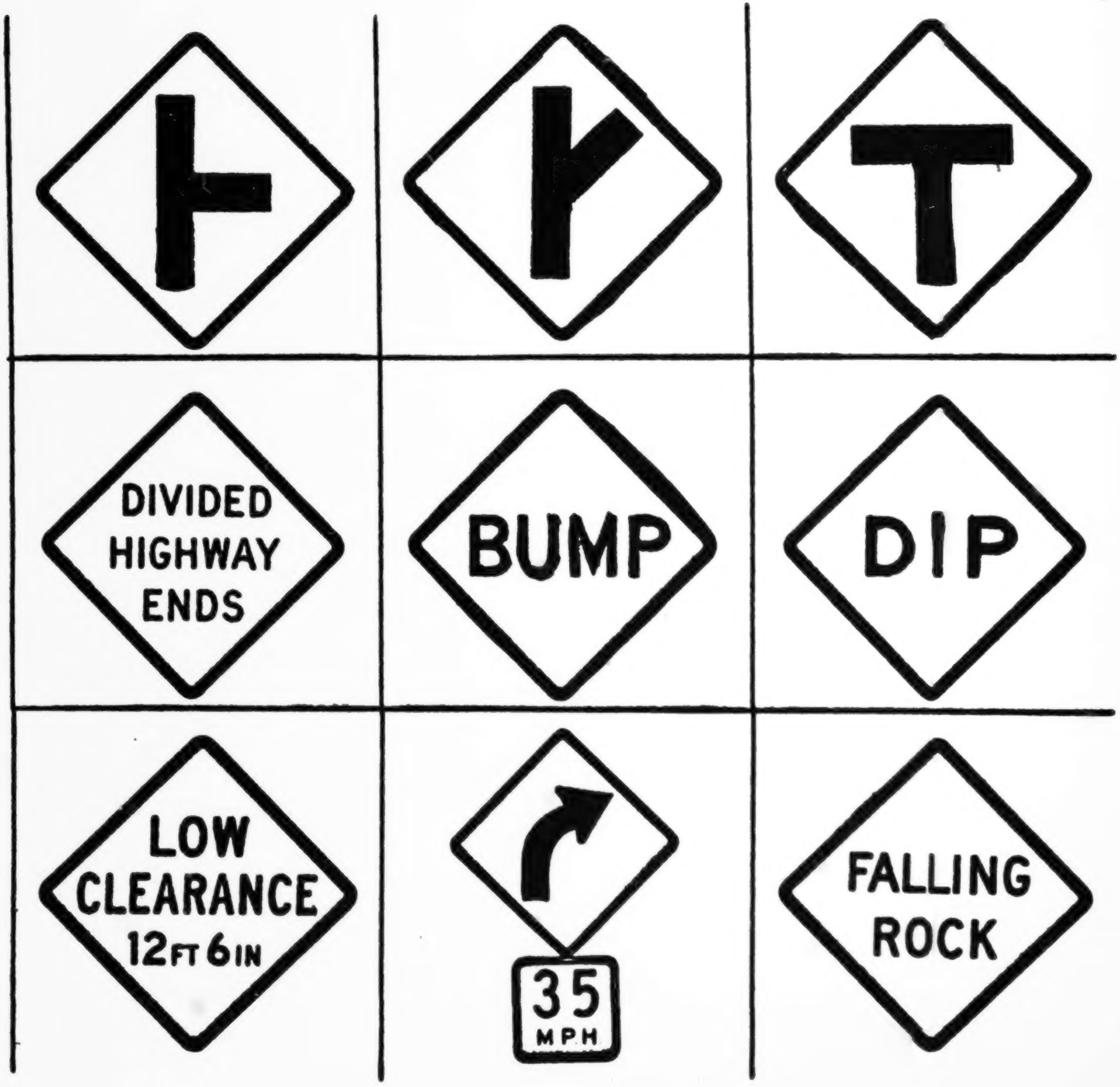

KEEP
OFF
MEDIA


EMERGENCY
PARKING
ONLY

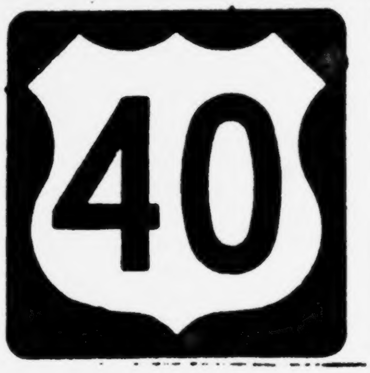
WARNING SIGNS

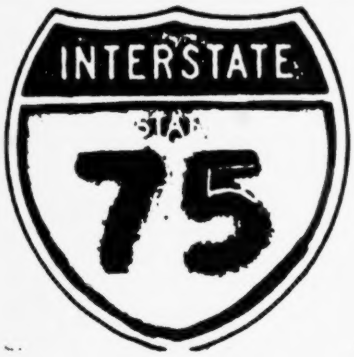

STOP AHEAD
YIELD AHEAD
SIGNAL AHEAD
MERGING TRAFFIC
PAVEMENT ENDS
SOFT SHOULDER
SLIPPERY WHEN WET
SCHOOL
ROAD NARROWS
NARROW BRIDGE
ONE LANE BRIDGE
DIVIDED HIGHWAY
SCHOOL CROSSING
R R
TRUCK CROSSING

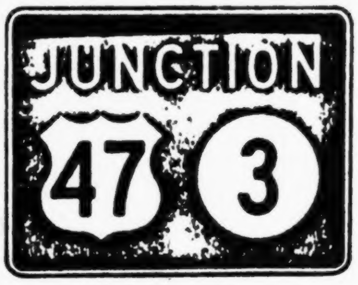
D 24

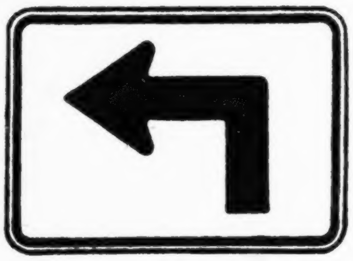

DIVIDED HIGHWAY ENDS
BUMP
DIP
LOW CLEARANCE 12FT 6IN
35 MPH
FALLING ROCK

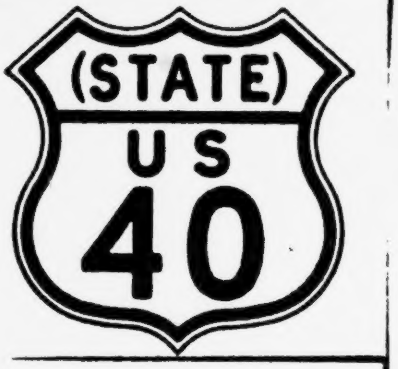
ROUTE MARKERS AND AUXILIARY MARKERS

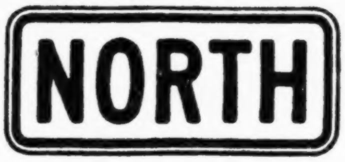


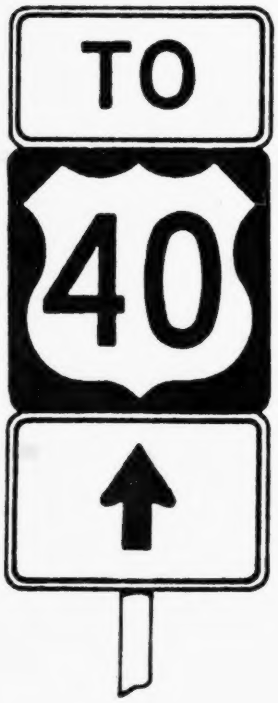

INTERSTATE
75

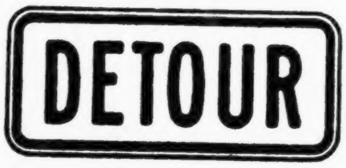

JUNCTION
47
3

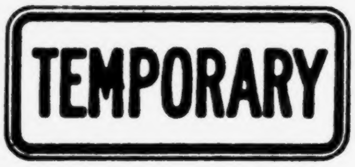


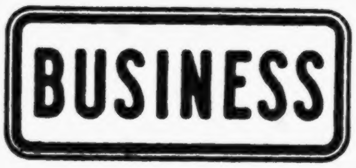


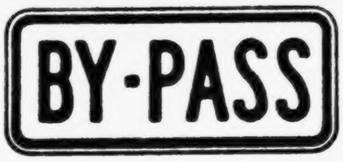




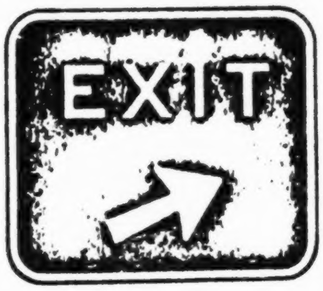


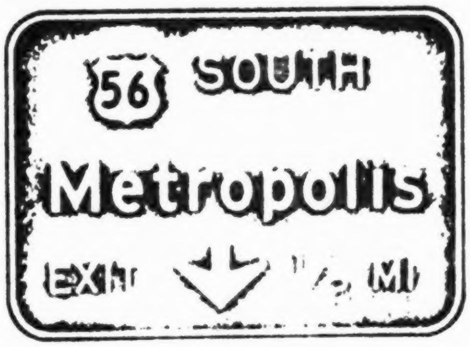


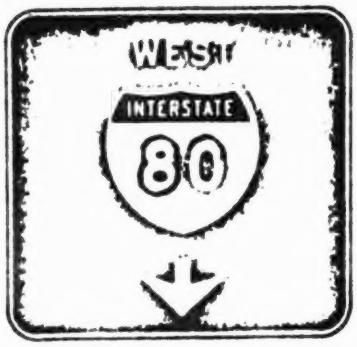


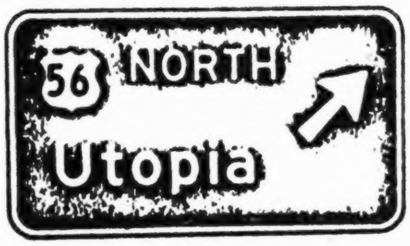


INTERSTATE AND EXPRESSWAY




56
SOUTH
Metropolis
EXIT
1/2 MI


WEST
INTERSTATE
80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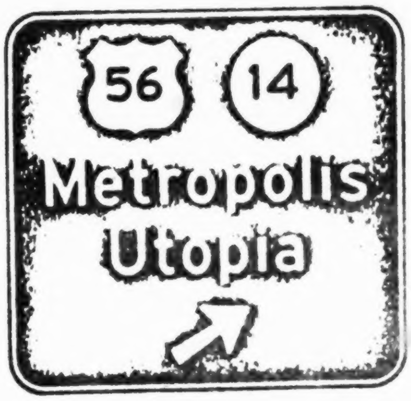
NORTH
Utopia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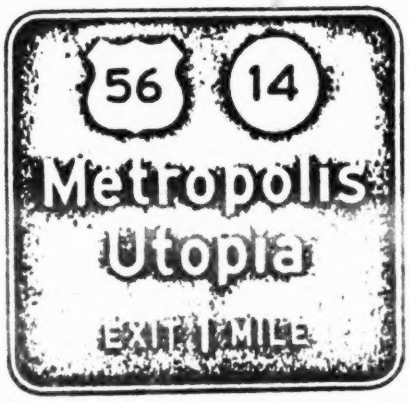
14
Metropolis
Utopia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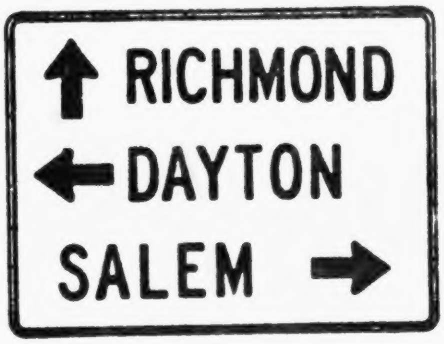
Metropolis
Utopia
EXIT 1 MILE

DESTINATION AND DISTANCE SIGNS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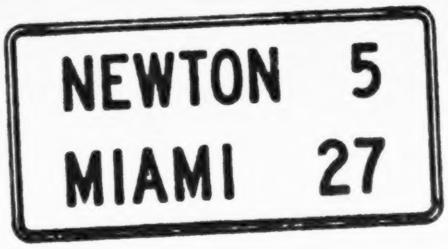
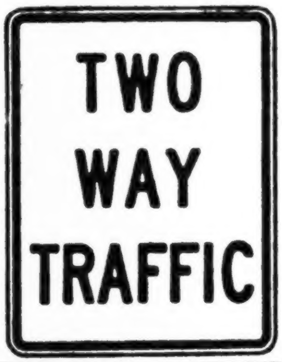
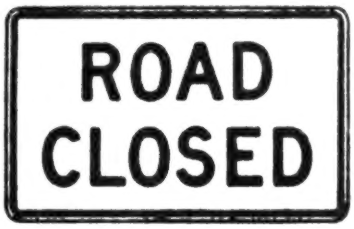
DAYTON
SALEM


NEWTON 5
MIAMI 27

CONSTRUCTION and MAINTENANCE


TWO
WAY
TRAFFIC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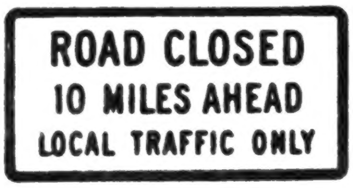
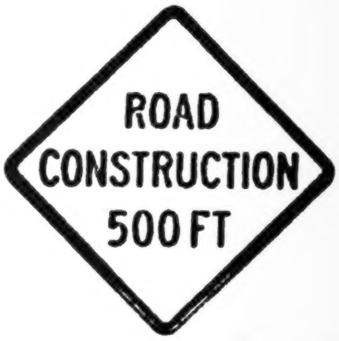
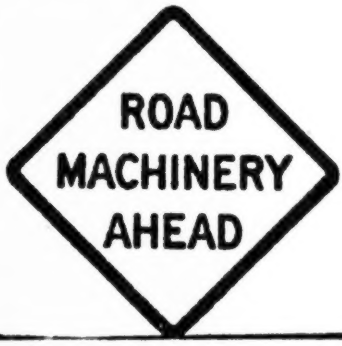
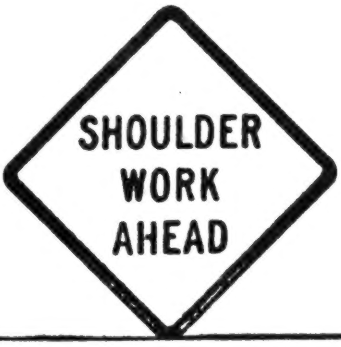
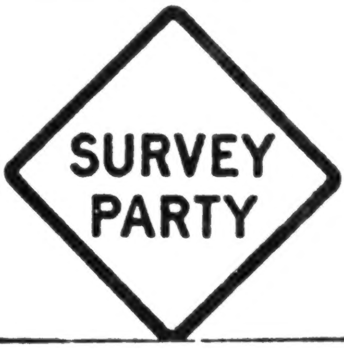
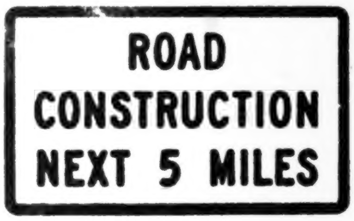

ROAD CLOSED
10 MILES AHEAD
LOCAL TRAFFIC ONLY

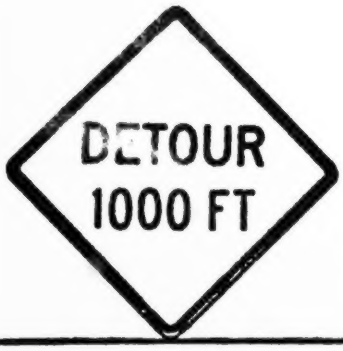

ROAD
CONSTRUCTION
500 FT

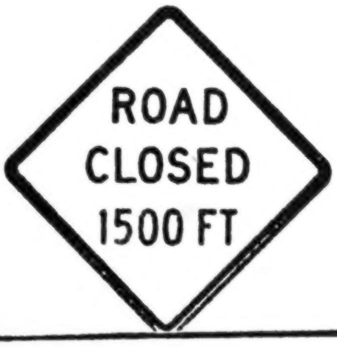

ROAD
MACHINERY
AHEAD

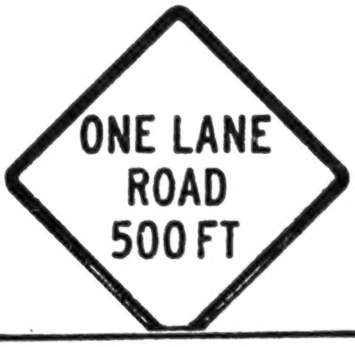

SHOULDER
WORK
AHEAD

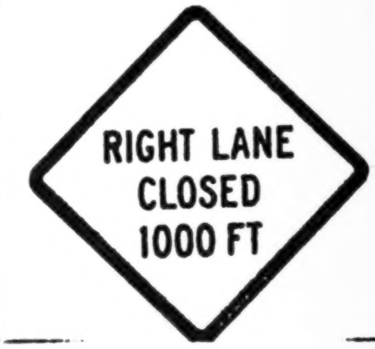

SURVEY
PARTY

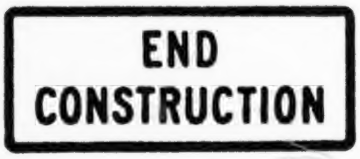

ROAD
CONSTRUCTION
NEXT 5 MILES

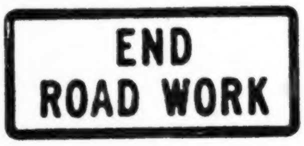

DETOUR
1000 FT

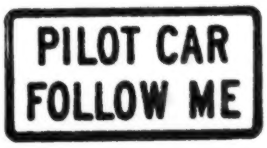

ROAD
CLOSED
1500 FT

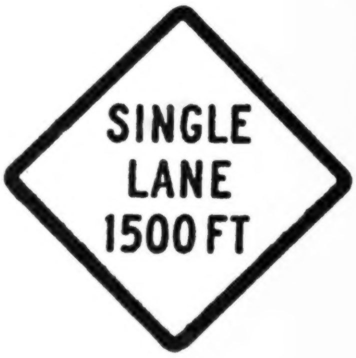

ONE LANE
ROAD
500 FT

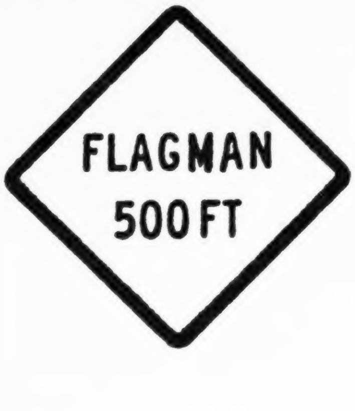

RIGHT LANE
CLOSED
1000 FT

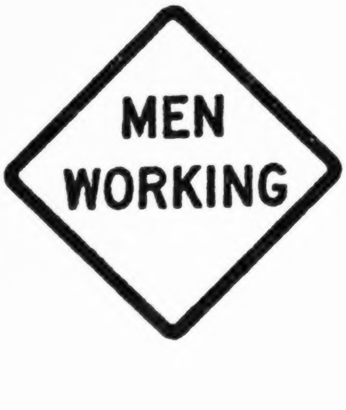

END
CONSTRUCTION


END
ROAD WORK

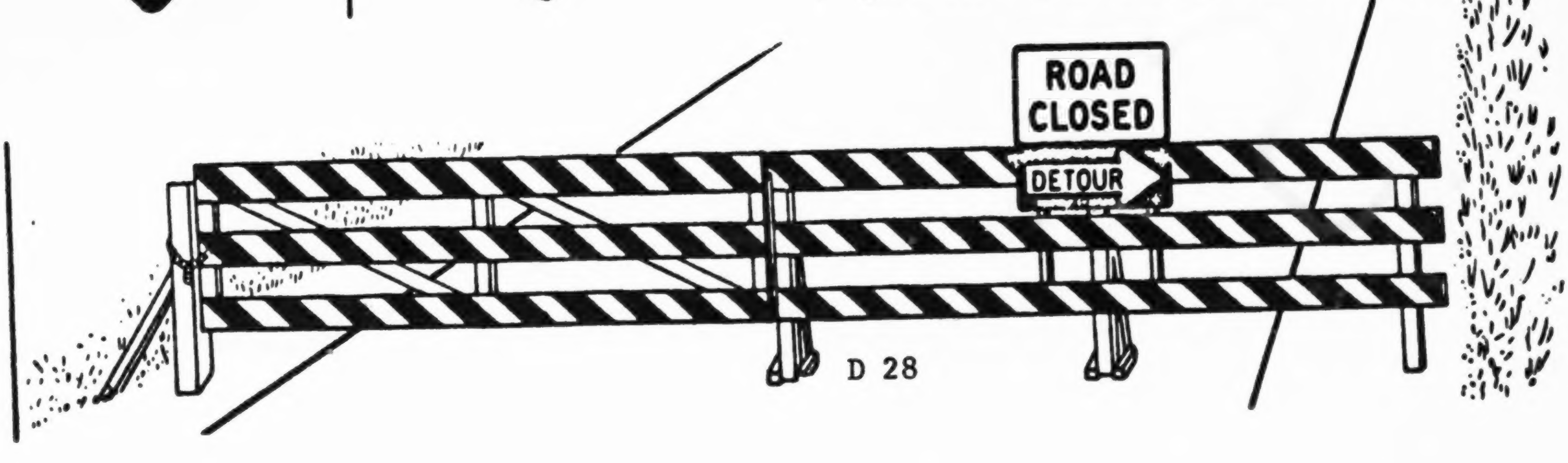

PILOT CAR
FOLLOW ME


SINGLE
LANE
1500 FT


FLAGMAN
500 FT


MEN
WORKING

BARRICADE CLOSING A ROAD


ROAD
CLOSED
DETOUR

OCCUPATIONAL AND EDUCATIONAL OPPORTUNIT

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

OVERVIEW

The purpose of this section of the Guide is to acquaint the students with the different types of jobs, how to take advantage of services of public agencies, how to apply for a job, how to fill applications, and how to get along and learn the responsibilities of the job held, and how to learn further about educational opportunities.

This area should not be taught as separate content, but rather should become an integral part of the Communications Skills, Mathematics, and Citizenship and Social Skills content.

GOALS

To help the adult learn to become a participating member of society by upgrading his employment opportunities and raising his general educational level to a point at which he can participate in vocational and occupational training programs.

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

Scope and Sequence Chart

I. Getting acquainted
    A. Getting to know each other
    B. Jobs we can do
II. Jobs of today
    A. Specific development
    B. Importance of new job skills
    C. Training and re-training
III. Employment Services
    A. Use of public agencies
    B. Varied services of private agencies
IV. Employment interviews
    A. Why interview
    B. Interview preparation
    C. Interview behavior
V. Preparing job application blanks
    A. Purpose
    B. General information on job application
    C. Specific information
        1. Job application
        2. Employment agency application
        3. Social security number application

VI Getting along on the job

   A. Doing the job

   B. Developing good work habits

   C. Working with others

VII. Responsibilities on the job

   A. Qualities that succeed on the job

   B. Accepting job responsibilities

   C. Moving ahead on the job

VIII. Vocational, occupational, and educational programs

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

GENERAL OBJECTIVES

I. To acquaint the students with each other and to set a tone of purposeful learning.

To help the students recognize their own abilities and interests as tools in the learning process.

II. To help the students understand the changing nature of work opportunities and give them a better understanding of the requirements of work.

To help the students convey an appreciation of the importance of training and re-training as job preparation.

III. To familiarize students with different services and practices of public and private employment agencies.

To help students relate their skills and interests to specialized placement agencies in both public and private fields.

IV. To develop an understanding of the purposes of the personal interview in applying for a job.

To familiarize students with the preparation necessary for interviews.

V. To acquaint students with the kind of information generally requested in an application blank.

To develop in students the skills necessary for filling out application blanks.

VI. To help the students identify the characteristics generally considered as good in a worker.

To acquaint the students with the importance of good work habits.

To help students with the meaning of "working with others" in today's world.

VII. To develop student appreciation of the relationship between job responsibility and advancement.

To help make students aware of ways they can prove capacity of job responsibility to the employer.

VIII. To make the student aware of vocational, occupational, and educational training programs and to acquaint him with the specific qualifications necessary to enter training programs in which he is interested.

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

GETTING TO KNOW EACH OTHER

I. To acquaint the students with each other and to set a tone of purposeful learning.

To help students recognize their own abilities and interests as tools in the learning process.

- A. Content
  - 1. The students get to know others through
    - a. viewing films
    - b. introducing themselves
    - c. group discussions
      - (1) personal information
      - (2) interests
      - (3) experiences
- B. Aptitudes and vocational interests of class members
  - 1. Importance of relating aptitudes and vocational interests
  - 2. Importance of literacy skills in today's jobs
- C. Method
  - 1. Guide--questions to stimulate discussions
  - 2. Preview film
  - 3. Practice and test material
  - 4. Drills--preparatory recognition--match words on board with picture

    a. money
    b. factory

D. Suggested Activities

1. List new inventions and describe applications
2. Read and discuss availability of work through newspaper ads
3. Familiarize students with use of classified advertising telephone books
4. Contact employment agency
5. Have student describe his job

E. Suggested Materials

1. Films
2. Filmstrips
3. Chalkboards
4. Flash cards, pictures
5. Newspaper
6. Telephone directory

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

JOBS OF TODAY

II. To help the students understand the changing nature of work opportunities and give them a better understanding of the requirements of work.

To help the students convey an appreciation of the importance of training and re-training as job preparation.

A. Content

1. The world of change
2. The role of machines
3. The skills needed in today's jobs

B. Methods

1. Have students participate in class discussions and answer questions orally
2. Practice and test exercises
    a. Themes developed on chalkboards

        example: We are living in a world of change. We are living in a world of many new inventions. New inventions mean change in both job opportunities and methods of work.
3. Flash cards with colonial machinery compared with that of recent years

4. Films and filmstrips

5. Practices and drills on:

    a. language skills

    b. preparatory recognition drills

    c. writing skills

    d. arithmetic skills

    e. office skills

C. Suggested Activities

1. Discussion of group individual goals

2. Viewing of films

3. Drills (language skills, vocabulary building)

4. Themes on chalkboard

5. Comprehension testing

D. Suggested Materials

1. Film--Aptitude and Occupations (16mm, sound 10 minutes Coronet Film, 448 Madison Ave., New York, N.Y.)

2. Flash cards

3. Drills and practices

4. Chalkboards

5. Teacher-prepared charts

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

EMPLOYMENT SERVICE

III. To familiarize students with different services and practices of public and private employment agencies.

To help students relate their skills and interests to specialized placement agencies in both public and private fields.

A. Content

1. Use of public agencies
2. Varied services of private agencies

B. Methods - have student participate in discussion on

1. Brochures from public and private employment agencies
2. Reports by students of their experiences with various types of employment services
3. Categorized list of public and private agencies (beginning with the ones with which students are already acquainted)

C. Suggested Activities

1. Class discussion on the use of public and private agencies
2. Class exercises
   example: a paragraph composed by the class as a whole
3. Individual exercises
4. Gathered brochures (read and discussed in class)
5. List of available agencies and their locations (compiled by students)

6. Visit to agencies when possible

7. Invitation to resource personnel to speak to class

D. Suggested Materials

1. Brochures furnished by

a. private employment agencies

b. personnel offices

c. private firms

d. industries

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

EMPLOYMENT INTERVIEWS

IV. To develop an understanding of the purposes of the personal interview in applying for a job.

To familiarize students with the preparation necessary for the interviews.

A. Content

1. Why interview?
2. Interview preparation
3. Interview behavior

B. Method

1. Provide practice sessions to prepare students for job interview
2. Practice and drill on
   a. language skills
   b. comprehensive testing
   c. spelling
   d. reading

C. Suggested Activities

1. Have students list what each considers important requirements for an applicant in a job interview.
2. Act out job interviews, students taking role of job applicants and teacher playing role of interviewer.

3. Have class member analyze interviews and select person for the job.
4. Record interview and play back.

   have students listen for mistakes and make corrections.
5. Conduct drills and practices
6. Read and discuss an interview
   a. behavior
   b. courtesy
   c. personal appearance
7. Show films--16mm color films, rental only
   a. job interviews: Three Young Men-How Would You Rate?
   b. Three Young Women--How Would You Rate?
8. Use illustrations from magazines and newspapers, stressing points, such as:
   a. bring your social security card with you
   b. have your references ready
   c. look your best

D. Suggested Materials
1. Desk and chair for employer
2. Chair for prospective employee
3. Sample application forms
4. Tape recorder
5. Pencils, and tablets
6. Books
7. Pamphlets
8. Films-Gregg Division, McGraw-Hill Book Company, Dallas, Texas.

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

PREPARING JOB APPLICATION BLANKS

V. To acquaint the students with the kind of information generally requested in an application blank.

To develop in students the skills necessary for filling out application blanks.

A. Content

1. The purpose of an application blank
2. General information requested on most application blanks
3. Specific information
    - a. job application
    - b. employment application
    - c. application for social security number
4. To develop a vocabulary pertinent to a specific job application
5. To develop in each student confidence in filling out a job application

B. Method

1. Look at job applications and discuss them
2. Practice of language and skills on:
    - a. related subject area in teaching
    - b. arithmetic problems
3. Fill out individual applications

        a. employment

        b. registration in an employment agency

        c. social security account numbers

C. Suggested Activities

    1. Ask students teacher-guided questions on information generally requested on an application.

    2. Make a list of the information that is important in most applications.

    3. Take turns going to chalk board and filling out parts of the application blanks printed there, or use a transparency.

    4. Practice filling out the mimeographed copies of the application blanks.

    5. Have class correct application blanks pictured on screen with opaque projector or transparency.

D. Suggested Materials

    1. Job application forms

    2. Alien registration forms

    3. Booklets

    4. Opaque projector and/or overhead projector

    5. Paper, pencils

    6. Ball-point pen

    7. Dictionary

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

GETTING ALONG ON THE JOB

VI. To help students identify the characteristics generally considered as good in a worker.

To acquaint the students with the importance of good work habits.

To help students with the meaning of"working with others" in today's world.

A. Content

1. Doing the job
2. Developing good work habits
3. Working with others

B. Methods

1. Have students participate in question and answer sessions to stimulate thinking, discussion, and interest
2. Practice language skills pertaining to related subject area.
3. Use films
4. Invite a guest speaker
5. Have students appraise the behavior of class

C. Suggested Activities

1. Viewing films and discussing main points
2. Listening to employer talk about qualities he considers important in getting along in a job

3. Drilling and practicing on language skills:
    a. reading
    b. speaking
    c. writing
    d. vocabulary
4. Listing qualities which are important in getting along on a job
5. Writing themes

D. Suggested Materials

1. Film: Planning for Success; You and Your Work (10 min) (16mm sound films), Coronet films, 488 Madison Avenue, New York, New York.
2. Workbooks

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

RESPONSIBILITIES ON THE JOB

VII. To develop student appreciation of the relationship between the job responsibility and advancement.

To help make students aware of ways they can prove capacity of job responsibility to the employer.

A. Content

1. Discussing qualities that make success in a mobile society
2. Accepting job responsibilities
3. Moving ahead on a job

B. Method

1. Student participation in question and answer sessions
2. Group discussions
3. Drills and practices on language skills in related subject areas
4. Field trips for observation of reliable person at work

C. Suggested Activities

1. Have student collect on-the-job success stories from magazines and newspapers to fit his level
2. Discuss films
3. Practice and drill on language skills related to subject matter

D. Suggested Materials

1. Workbooks
2. Films or filmstrips about great Americans who struggled to success
3. Public libraries.

OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES

VOCATIONAL, OCCUPATIONAL, AND EDUCATIONAL PROGRAMS

VIII. To make the student aware of vocational, occupational, and educational training programs and to acquaint him with specific qualifications necessary to enter training programs in which he is interested.

A. Content
   1. Type of program
   2. Qualifications

B. Methods
   1. Group or class discussions
   2. Invitation to a guest speaker (federal employee)
   3. Films
   4. Outside readings

C. Suggested Activities
   1. Invite federal officials to discuss subsidized programs.
   2. Have students make lists of local and private schools offering training.
   3. Have class formulate a list of on-the-job training programs in area
      a. post list on bulletin board
      b. discuss qualifications
   4. Have students draw list of occupations in which they are